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# Korean Affairs Report

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3 JULY 1986

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OLYMPIC GAMES

KIM IL-SONG REITERATES DEMAND ON OLYMPIC GAMES

LD150834 Belgrade TANNUG in English 0926 GMT 13 Jun 86

[Text] Belgrade, June 13 (TANJUC)--Kim Il-Song, president of the Democratic People's Republic of Korea, has reiterated his country's demand that the 24th Olympic Games be held under joint auspices of the two Koreas and promised welcome to the Olympic participant in Pyongyang. He did so in an interview with OSLOBODJENJE, a Yugoslav daily coming out in Sarajevo, Republic of Bosnia-Herzegovina, central Yugoslavia. Excerpts from his interview were carried by many other Yugoslav newspapers today.

"South Korea is not a suitable venue for holding the Olympic Games," he said on choosing Seoul as the venue for the Olympic Games. "The Olympic Games, which have noble goals to promote world peace and friendship among mankind would have to take place where there is political stability, democratic freedoms and a peace-loving climate to be found," he added.

The DPR of Korea's leader explained the decision on holding the Olympic Games in Seoul by Washington's policy in favour of the existence of two Korean states. By giving the Olympics to Seoul, the U.S. is trying to sanction the division of Korea and to present the picture of "beautified" South Korea to the world.

Kim Il-Song warned to steady tension in the Korean peninsula and said that the presence of 40,000 U.S. troops stationed in bases in South Korea and steady manoeuvres by the U.S. Armed Forces in the area rose a steady threat of war. [sentence as received]

"If the Olympic Games were to be held under the joint auspices of the north and the south of Korea, this would eliminate misunderstanding and the south of Korea, this would eliminate misunderstanding and mistrust with their governments and would contribute to national reconciliation and reunification, as well as to advancing the North-South Dialogue," the president of the DPR of Korea said.

/8918  
CSO: 4100/165

## OLYMPIC GAMES

### BRIEFS

TABLE TENNIS FEDERATION ON OLYMPICS--Lausanne, Switzerland, June 14 (AFP)--The International Table tennis Federation (ITF) has said it is not opposed to the 1988 Olympic table tennis contest being held in North Korea, the International Olympic Committee (IOC) said here Saturday. The federation wrote to the IOC and without mentioning North Korea, said that the ITF council had decided to support the IOC's efforts "to preserve the unity of the Olympic movement." The IOC proposed to North and South Korea earlier this week that the table tennis and archery competitions, part of the road cycling and some of the soccer events should be staged in North Korea in 1988. South Korean officials have hinted that their side would accept the proposal, but both countries have till June 30 to come to a decision. An IOC communique said the letter meant that the ITF would accept the eventual decision of the Olympic Committee.

[Text] [Paris AFP in English 1355 GMT 14 Jun 86 AU] /8918

CSO: 4100/166

S. KOREA/POLITICS AND GOVERNMENT

14 PUBLISHERS ARRESTED FOR PRO-COMMUNIST PUBLICATIONS

Over 5,000 Items Seized

Seoul SEOUL SINMUN in Korean 15 Apr 86 p 11

[Text] It has been disclosed that behind the radical campus riots or the leftist doctrine of activist students, there are publication organizations that have been supplying a theoretical foundation, carrying out indoctrination and even imparting to the students the outlines for action. These organizations, by setting up publishing companies and then supplying translations or copies of all kinds of seditious publications or printed matter, based on such things, to the campus areas, have armed students with a leftist doctrine, and have supplied the bases for slogans against the system. Moreover, it has been disclosed that they have been maneuvering behind the scenes so boldly and carefully even to make slides to impart an outline for action and make preparations even for the production of movies.

On 14 April, security headquarters arrested 14 people--including I Bum, the representative of Paeksan Sodang (age 28, expelled from the Department of Politics and Diplomacy at Koryo University when a sophomore), Ko Sung-guk, the representative of Tasan Kihoek (age 28, doctoral student in the Department of Politics and Diplomacy at Koryo University), and Ko Kyung-dae representative of Poimsa (age 28, graduate of the Department of History at Yonsei University)--who conducted such activities with activist students and workers on suspicion of violating the National Security Law, and set up a dragnet to apprehend 14 others on the same charge. According to the police, in order to provide a theoretical basis for the activist student movement after they graduated or were expelled from school, these people, who themselves are affiliated with activist circles, from September on have been setting up and operating publishing companies, publishing planning companies, etc. and have been translating and disseminating banned books such as "The Manual of Philosophy" (published by the Russian Academy), etc. Furthermore, they are suspected of acquiring publications in English concerned with the doctrine, strategy, etc. of historical materialism, Lenin's message, and the theory of the new imperialism by secretly bringing them in from Japan, etc., helping with the production of seditious printed matter on campus by translating parts of these publications and supplying them to activist students, carrying out indoctrination behind the scenes for some of the activist circles, and publishing and disseminating ideological books.



Recently, the police have been investigating by bringing those arrested in for questioning, such as on the 25th of last month when five people, including Mr Ko, were brought in, etc.

As a result of this investigation, it has been disclosed that the leader of these publishers of seditious books is Kim Sang-bok (age 30, a second-year drop-out from the Chungang College of Theology and former chairman of the cultural section of the YMCA). I Bum of Paeksan Sodang, Ko Sung-guk of Tasan Kihoek, and Ko Kyung-dae of Poimsa are connected with him and established their companies and have been active since September of last year.

Among them, Tasan Kihoek was in charge of gathering materials and providing a logic and acquired 540 pro-communist books including Engel's "Anti-Duhring," Lenin's "The State and Revolution," etc. and made and disseminated a total of 4,269 volumes of pro-communist books and other printed matter including 1,254 books and 3,015 other types of printed matter. Furthermore, Poimsa was in charge of activities concerned with providing visual-medium materials for use in the indoctrination of workers, had produced 6 types of slides with a total number of 353 for use in indoctrination, was in the process of producing an 8-mm movie for indoctrination, and had once carried out an indoctrination study session with 50 workers.

The police confiscated a total of over 5,800 books and other types of printed matter from them and were also in the process of investigating the behind-the-scenes actions in activist circles by others besides them.

#### Affiliated With Activist Circles

Seoul SEOUL SINMUN in Korean 15 Apr 86 p 10

[Text] This incident, where 14 people, including the representatives of three publishing companies, were arrested together on suspicion of acquiring pro-communist books, translating them, and producing and disseminating books and other types of printed matter, is proof of the conviction of late that there probably is someone behind the student movement manipulating things. In short, it can be said that these publishing companies are the theoretical center that has manipulated the leftist student movement recently. The police investigation disclosed that it is precisely the books, printed matter, etc. translated, printed, and disseminated by these companies that have been the main source of leftist slogans put forth by activist students during the recent violent demonstrations. Among these companies, Poimsa and Tasa Kihoek have rented the second floors of shabby houses in Sinsadong of Mapogu and Songsudong of Songdonggu in Seoul, using them as their workshops and translating the illegal books. It was disclosed that portions of manuscripts of translations of these unregistered organizations were printed and published mainly by the registered Hanul Publishing Co. and Paeksan Sodang and have been sold in the city.

The publishing and marketing of ideological books are sometimes achieved because of ideas originating in the planning room or editing room of a publishing company itself. However, some of those linked with this affair

who were arrested this time did not have a publishing company. At their own discretion, they established companies that were in charge of editorial planning only and used them specially to translate only pro-communist ideological books, which were then copied or made into printed matter and supplied as the student's ideological foundation.

It was disclosed that especially the leader of this incident, Kim Sang-bok, agreed with I Bum, Ko Kyong-dae, and Ko Song-guk--affiliated with the activist circles--to specialize in planning and publishing ideological books, and from last September on they even set up businesses called Poimsa and Tasan Kihoek and have been active.

The police confiscated four truckloads of ideological books and printed matter from them, a total of 540 volumes of communist and pro-communist books--starting with "The Philosophical Pontiff"--including 53 different English-language seditious original texts and 355 different Japanese-language leftist publications among them. Also included were 364 pieces of seditious printed matter such as "The Two Kinds of Strategy of the Revolutionary Party During the Revolutionary Period," "The Nation's Liberation," "People's Democracy," "The Duty of a Believer in the Three People's Principles," etc. At Tasan Kihoek alone the police confiscated 4,269 books or pieces of printed matter and at Poimsa they confiscated 544 pieces.

Last September, after setting up an office, Tasan Kihoek mobilized activist students, picked only the subject matter that could be used as guidelines in the anti-government movement from books acquired mainly from Japan, and supplied published translations of it.

Furthermore, from the beginning, Poimsa was in charge of the production of book covers, but a year ago they formed a relationship with activist students and were involved in the production of slides and a movie to indoctrinate workers.

The police confiscated a total of 353 slides, 74 of which were to indoctrinate farmers, 39 of which were to indoctrinate laborers, 33 of which were connected to the Daewoo Automobile sit-down strike, 24 of which were connected with the indoctrination of the poor in the city (the people who moved out of Mokdong in Seoul), 153 of which were connected with the Kwangju affair, 50 of which were connected with domestic politics, etc.

Outside of this, Poimsa also carried out a study to indoctrinate workers and was in the process of producing an 8-mm film for indoctrination that was confiscated by the police this time.

As for the Paeksan Sodang, which was established in 1979, I Bum, an affiliate of activist circles and member of the KumYo Association, took charge of it and has published ideological books, this year alone putting out four different books that dealt with leftist philosophy: "A History of the Japanese Student Movement," "The History and Structure of Capitalism," "Bury My Soul on the Continent," and "The Theory of Social Classes."

It has been known that the KumYo Association has the goal of publishing books that reflect more of a "subjective historical consciousness" when compared to the SuYo Association, an assembly of established publishers that has already established a base as a friendship organization of youthful and spirited publishers with a common aim of producing social science publications. Six member companies out of 22 have already had their registrations revoked so in reality it consists of 16 member companies.

The police, after receiving information that ideological books were being supplied to students in an organized way from the beginning, commenced an investigation last month, became aware of the fact that "The Authority and Direction of the Soviet Revolution," a book circulating among activist students recently, was put out by these publishing companies, and exposed the nature of them. As a result of the police investigation, it was disclosed that all the members in charge of these publication plans, as affiliates of activist circles, formed relationships with campus action organizations and secretly distributed ideological books.

The subject matter of the publications and printed matter they provided extensively opposed capitalist systems, praised revolutionary theory, and were quoted verbatim in the printed matter and slogans put forth recently by activist students.

The police believe that other organizations besides these probably have extensively dealt with books that inculcated general principles of action and revolutionary thought in activist students and are expanding their investigation. One person connected with the police disclosed that "precisely these publishing companies are the leaders that have stressed the superiority of the leftist mechanism and are the epicenter of behind-the-scene manipulations."

13222/13046  
CSO: 4107/134

S. KOREA/POLITICS AND GOVERNMENT

OPPOSITION PARTIES' ACTIVITIES REPORTED

Seoul HANKUK ILBO in Korean 18 Apr 86 p 2

[Column "Political Scene, Comings and Goings": "Democratic Party's Central Committee Members Demand Freedom of Press to Dispel Further Mistrust in the Press, the Nation's Eyes and Ears; Consistency Lacking in Rationale Toward Opposition Party"]

[Text] On the morning of 17 April, attention was focused on No T'ae-U, the Democratic Justice Party (DJP) Chairman, who attended the Map'o, and Yongsan area local parties' Central Committee get together, which was held in a restaurant in Kongdoktong, Mapogu, Seoul. He was criticizing the opposition circle in a tone stronger than usual, while the voice of first line party members sharply criticizing the JDP could also be heard.

On the same day, Chairman No in his encouragement address, severely attacked the New Democratic Party's (NDP) assembly for endorsing the constitutional revision saying, "Certain opposition party members are even showing signs of paranoia, obsessed with the idea that if they should fail to seize power this time, the opportunity would forever be lost." He also added that if they want people to sign, they should plead with them rather than resort to rioting on the streets.

On the other hand, Central Committee members who attended the meeting that day, including committee member Kwon Ch'il-chin said that compared to the opposition party's policy for direct voting, our party's corresponding rationale lacked consistency and thus it was difficult to have any confidence in it. He further added that there are times when they are even at a loss as to how to behave. Committee member Kim Jong-duk said, "As we can see in the campaign for opposing the KBS (Korea Broadcasting Station) subscription fee, we should open up the press, which is the nation's eyes and ears, so that it would no longer be distrusted. Committee member So Chun-mo even threw out a sharp reflective question saying that the desire for reform existing at the time their party was originally established seems to have been lost to a large extent.

Chairman No reclarified his opposition to the constitutional reform of direct voting saying, the opposition party, which is a minority party, has nowhere in the world ever been successful in bringing about constitutional reform. He added that direct voting, which the opposition party supports, contains elements of regional conflicts and not just regional sentiments, and therefore, should never be allowed.

### Pouring out Into the Streets for the Signers' Convenience

On 17 April, Yi Min-u, head of the opposition NDP, while openly stating his desire to enforce the campaign for signing the petition for constitutional reform on the streets saying, "We are not deliberately trying to initiate it, but we are rather trying to promote the convenience of those who sign," even added a footnote that no one should disrupt traffic and he seemed to be highly concerned about relieving some of his anxiety over signing on the streets and avoiding clashes with the authorities.

Chairman Yi, in referring to the college professors' continuing declaration of the state of affairs, warned that those with conscience were taking that kind of stand and that people were filled with the fervor for constitutional revision, and so if they are unreasonably suppressed, they will only lead to an explosion. He reemphasized that if the government and the ruling party both desire to promote democracy, they should face reality and advance constitutional reform.

After receiving Yu Song-hwan's (National Assembly member) report that about 50 local provincial chapters' staff members were staging a strike protesting the arrest of Yi Byong-gu, vice-chairman of the North Kyongsang Province's training division, who was accused of breaking down the cement wall built at the entrance that leads to the roof of the Asian Theater, where the rally was held on 5 April for organizing the local North Kyongsang and Taegu chapters by the constitutional revision promotion committee in Taegu, Chairman Yi expressed his outrage at Kang Min-chang, the national police director, saying he didn't understand what suddenly went wrong, because Mr Kang has promised not to make an issue of the above incident. Chairman Yi gave directions for handling the situation objectively.

Mr Yu, who had actually sponsored the rally, also criticized the police saying that the wall was build in a hurry right before the meeting as a dividing wall to block the installation of an outdoor speaker and that it didn't even belong to the theater at the time of signing the lease, so we should be indicting the police for interfering with our affairs rather than the police arresting our man.

### Chairman No Harshly Berates Party Staff Members

At the DJP staff meeting on the morning of 17 April, the voice of Chairman No sharply criticizing the staff members' passive attitude could be heard even outside the conference hall, and the meeting proceeded in a tense atmosphere. Even vice-spokesman Choe Sang-jin looked agitated as he reported on the results of the meeting as well as on the pervading mood, saying it was the first time out of the many meetings he had attended throughout the year that he saw Chairman No so upset and requested that everyone exercise his discretion in interpreting the chairman's message, even if an adequate explanation may be missing.

After listening to the customary reports on such relevant matters by Secretary General Chong Sun-dok, Chang Song-man, Policy-making Committee chairman, and Choe Byong-yol, deputy director of the Government Policy Research Institute that same day, Chairman No reprimanded the staff members, saying there was a

crisis in the state of affairs brought about by various trends, including the problem of academic institutions such as student demonstrations and the professors' issuance of statements, the problem of constitutional revision, and the problem of rejecting the KBS subscription fee. He continued that the Party must therefore carefully scrutinize the government's policy to see if it is being effectively administered and in the event that they should find shortcomings, to propose an alternative and make sure the Party was adhering to this policy.

Chairman No continued his reprimand saying that the Party staff members are supposed to form a system whereby the Party can exercise its initiative, but no interim report had ever been made concerning some of the guiding principles and in a word, the Party seems to have lost much of its discipline. He further directed that they complete organizing their position and rationale concerning the current state of affairs to report on them.

Tonggyodong Faction Meetings also to be Held on Thursdays

After the special session of the National Assembly had closed on the 11th and while various factions of the NDP were expanding their covert, behind-the-scene activities typical of motion hidden beneath a superficial calm by strengthening their organization, the Tonggyodong faction, which started the operation of the Institute for Democratic Human Rights, which is essentially their headquarters, decided to regularize their "Thursday breakfast meetings," after holding a Thursday breakfast meeting on 17 April in which Kim Dae-jung also participated.

The Tonggyodong faction's breakfast meeting is getting a lot of attention, since it has the same schedule of meeting on the same day of the week as the Sangdodong faction's Democratic Mountain Climbing Club's hiking activity. The Sangdodong faction will gather in the Ch'ongryangri area and will climb Mt Munan in Kap'yong District with Kim Yong Sam.

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CSO: 4107/139

S.KOREA/POLITICS AND GOVERNMENT

BAR ASSOCIATION FINALIZES CONSTITUTIONAL AMENDMENT VERSION

SK150232 Seoul THE KOREA HERALD in English 15 Jun 86 p 1

[Text] The Korean Federal Bar Association yesterday finalized its own version of a draft amendment to the Constitution. One provision calls for banning military personnel from running for the presidency until 3 years after their retirement from service.

The draft revision also calls for the popular election of the president who would serve only a single term of office for 6 years, 1 year shorter than now.

The 1,200-member lawyers' group adopted the draft amendment in a general meeting of provincial chapter chiefs and staff officials.

Association officials said they will soon recommend the draft revision to the government and the National Assembly.

The proposed bill also calls for the abolition of the national referendum system and envisages depriving the president of the right to exercise emergency powers and to empower the National Assembly with the right to investigate overall state affairs.

It also keeps the term of lawmakers at 4 years while lowering the voting age to 18 from the current 20.

As for the judiciary, the revision stipulates that an independent committee, tentatively named the Judges Selection Commission, would appoint the Chief Justice and other Supreme Court justices.

The president would only confirm the appointment of the Chief Justice and other justices according to the draft revision.

/8918  
CSO: 4100/166

S. KOREA/ECONOMY

ECONOMIC STRUCTURE, OPEN-DOOR POLICY DISCUSSED

Seoul HANKUK ILBO in Korean 28 Mar 86 p 3

[Article by Kim So-ung: "'International Cooperation' the Subject of the Sixth 5-Year Plan"]

[Text] The government's international economic strategy for facing the latter half of the 1980's is to accelerate the opening of commodities, services, capital, and foreign exchange to strengthen the condition of the economy.

According to the Sixth Plan's Foreign Cooperation Sector Plan announced on 27 March by the Economic Planning Board, during the period of the Sixth Plan, starting in 1987, it is expected that the world economic environment will show a continuation of protectionism due to the structural weakness of the developed nations' economies, and, owing to technical innovations in computers and in communications, the world village phenomenon will progress and economic interdependence among nations will increase.

In particular, as our nation has a limited domestic market and, in addition, is without natural resources, it is presumed that for continuous growth we cannot avoid a foreign-oriented development strategy based on exports.

In particular, as it is judged that the intensified market-opening pressure and protectionism of the developed countries these days are not temporary situations but long-term problems related to the structural strategy for dealing with this cannot be avoided. Following from this, the government plans quickly to permit commodity imports, liberalize foreign investment, and protect intellectual property rights, etc. in the service sector.

Scheduled is action toward the removal in stages of non-tariff barriers such as import restrictions due to import surveillance or special laws concerning import selection changes. The tariff rate by 1988 will be reduced from the present average of 21.3 percent to 18.1 percent, and in the case of manufactured goods it will be lowered to a level of 16.9 percent.

During the plan period, with a goal of attracting \$600 million to \$1 billion a year in foreign investment, restrictions on foreign investment will be largely removed. By 1988 the liberalization rate will be increased to 90 percent and in the case of manufacturing industry it is planned to be liberalized to the 97 percent level.



In order to foster the introduction of needed technology, a selective tax reduction system concerning royalty payments is being examined.

In relation to the outstanding issue for the elimination of trade friction between Korea and the United States, it has been decided to protect foreign copyrights and patents and computer software as well.

In the area of copyrights, the relevant law will be quickly revised to specify the protection period (50 years after death), the types and extent of literary work that can receive protection, and the measures to strengthen relief from infringements on rights such as strengthening dispute arbitration functions and joining international copyright conventions. The decision has been made to join the Universal Copyright Convention (UCC) which, in comparison with the Bern Convention, has more domestic regulation provisions, is more flexible, and does not recognize retroactive application.

The plan provides for the introduction of patents for pharmaceuticals and chemical substances (including their applications) in the near future, and in order to cope with the abuse of patents, there is a compulsory enforcement authority too.

Liberalization of each economic category, such as capital and foreign exchange transactions, is being hastened as well. Direct investment by foreigners in domestic stock is restricted, but during the plan period it will be permitted. Since the creation at the end of 1981 of income securities for the exclusive use of foreigners, investment in stock by foreigners has been permitted by indirect methods such as the Korea Fund and by the issuance of overseas securities, but the government's position is that in the future it will actively internationalize the capital market.

The plan will widen the opening of the insurance market, permit the entry of branches of foreign insurance companies, and permit the increased entry of casualty insurance companies and of joint-type investments. It removes gradually the joint collective organization (pool) of casualty insurers.

The government sees the Pacific Rim nations as rising to become the world's largest regional economic sphere and expects that regional trade will expand due to the growth potential of Southeast Asia, centered on the ASEAN countries and the economic opening of China, and is aiming to play the role of central nation for the increase of the region's trade and investment.

In particular, the plan strengthens cooperation in the areas of trade, technology, and capital with developing countries such as Poland, which, because of the promotion of economic development plans, have a great demand for imports and which have the advantage of providing indirect penetration of the markets of developed countries with high import barriers, and by increasing economic interchange with nations with which we do not yet have friendly relations, we will build the foundation for long-term cooperation.

On behalf of this, there is a plan for an overseas development fund with a configuration similar to that of Japan's Overseas Economic Cooperation Fund (OECF).

Instead of making long-term low-interest loans to lesser-developed countries, the concept is arranged on a basis that would make possible the sale of plants and various kinds of machinery necessary for those countries' development industries.

It is also judged that in the dimension of ensuring the stability of deficient resources, the strengthening of economic diplomacy with developing countries that are rich in resources is also urgently needed.

The efficient management of principal markets--such as the United States and Japan--is an important policy task, as is closely watching the many changes in the markets and overseas investment in advanced exporting areas, while systematically eliminating unfair trade practices such as fraudulent use of trademarks, counterfeit goods, exporting in sudden spurts, and dumping.

In particular, the structural sources of unfavorable trade conditions with Japan are as follows: 1) Because the articles exported to Japan are chiefly agricultural and light industrial products connected to the interests of Japan's farmers and fishermen and agricultural industry, there is a limit to increases of exports. 2) It is believed that due to the advantages of geographical proximity on freight costs and on the quick assurance of necessary raw materials, parts, and after-sales service, the dependence on Japan for capital and to act as a middleman cannot but deepen, and the plan concentrates efforts on marketing activity in the Japanese region and on the development of competitive products.

In regard to the U.S. market, by escaping from putting top priority on finished goods, increasing the export of partly manufactured goods, and expanding in the area of negligibly regulated technology-intensive articles, it presents improved measures to aid the heavy equipment industry.

From the position of confronting developed countries, such as the United States and Japan, and developing countries, such as India and Brazil, over the new round of negotiations, which will include liberalization of trade in services and high-technology goods, we must actively participate in order to ensure the most benefit for us, and on behalf of this, the plan will meet the situation by establishing within the government a countermeasure team and analyze the effects on domestic industries.

9259/12859

CSO: 4107/126

S. KOREA/ECONOMY

FOREIGN INVESTMENTS, TECHNOLOGY TRANSFER DISCUSSED

Seoul KISUL KWALLI in Korean No 3, Mar 86 pp 52-56

[Article by the Korean Industrial Technology Association: "Survey of Foreign Investment and Technology Transfer"; first paragraph is source supplied introduction]

[Text] With 161 foreign investment enterprises and 34 foreign managers as its subjects, for 3 months, from 10 June 1986 until 10 September 1986, this company investigated the actual conditions of technology transfers for foreign investment enterprises and published this investigative report with the intention of determining the direction to be taken in attracting desirable foreign investment together with a plan for expediting the transfer of technology to Korea and ultimately to activate further the movement of technological development in foreign investment enterprises. The following is an abridged version of the main parts of that investigatory report. Editor's comments.

I. Details of Foreign Investment

A. The motives for attracting foreign investment based on core technologies, in contrast with the motives underlying the movement into Korea of foreign investment based on securing the Korean market and the practical use of production requisites

As concerns the motives for why businesses attract foreign investment--with the transfer of core technologies far and away the highest in the survey at 67.1 percent, was securing a source of supply for raw materials and parts, next at 39.8 percent, was securing a stable export market at 34.2 percent, raising needed foreign capital at 28.4 percent, etc.--it can be seen that the main motive for attracting foreign capital is the transfer of core technologies.

However, if we look at the motives for why foreign investors move into Korea and compare them with the above--then, securing the Korean market was the highest at 85.3 percent, the use of Korea as a foreign export production base next at 61.8 percent, and the practical use of low wages and a superior labor force at 38.2 percent, etc.--then it can be seen that securing the Korean

market and the practical use of production requisites are the main reasons for investment in Korea, and the two opinions are mutually contradictory.

B. The low degree of success when the goal of attracting foreign investment is the transfer of core technologies, the practical use of industrial ownership, and the practical use of management abilities

The degree of success for each of the motives for attracting foreign investment is shown as generally being below expectations.

Namely, in securing sources of supply for raw materials and parts, results on par with expectations are being achieved, but all other items do not reach expectations. Especially with items such as the transfer of core technologies, the greatest motive for attracting foreign investment, the practical use of industrial ownership, and the practical use of management abilities, the degree of success is shown as very low, and because 51 percent avoid the transfer of core technologies, the main reason for the bottleneck when technology is transferred from a foreign investment business, it is concluded that the transfer of technology brought about by attracting foreign investment that a company expects is relatively unsatisfactory.

C. The prominent concern with the development of technology for appropriate enterprises by foreign investors as one link in marketing strategy

On the one hand, as concerns the fact that the motive for the movement of foreign capital into Korea lies mainly in production and sales and in the management of an investment enterprise by a foreign investor, the greatest concern is with the development of technology followed by an emphasis on the production and marketing of manufactured products, and this concern for the development of technology shows the interest taken in securing technology that can be used for the production and marketing of manufactured products.

## II. Actual Conditions of Development of Technology in Foreign Investment Enterprises

A. From the perspective of activities to develop technology, research manpower, and investment for the development of technology, the number of questions dealing with the development of technology, etc. of foreign investment enterprises are at a lower level than domestic enterprises.

When compared to the average of 41.3 research workers per company in domestic enterprises, 22.8 of whom are researchers, the actual condition of the research manpower in foreign investment enterprises, where there is an average of 37.5 research workers per company, a total of 19.6 of these being researchers, is much lower. And the number of researchers per 1,000 employees, at 12.3 per 1,000, is at a much lower level than in domestic enterprises where there are 17.4 per 1,000. Therefore it can be concluded that, generally speaking, the research manpower maintained is at a much lower level than domestic enterprises. On the one hand, in investment for the development of technology, the rate of investment for the development of technology is 1.06 percent of the total sales, the total of the average investment expenditure for the development of technology being 368 million won per company, and this is a much lower level than the 1.27 percent and 622 million won of domestic

enterprises; moreover, as regards the number of questions dealing with the development of technology, they average 7.8 per company, a level one-half that of the 14.9 of domestic enterprises. Therefore, on the whole, activities to develop technology are assessed as being more depressed than at domestic enterprises.

B. A tendency among foreign investment enterprises to secure needed technology by means of introducing technology or overseas research in technology rather than by developing it themselves

If we look at the degree of reliance on the different methods of securing needed technology by foreign investment enterprises, it can be seen that at 38.6 percent, the introduction of technology is the highest, followed by overseas research of technology at 37.9 percent, the technological instruction of invited foreign technical experts at 32.4 percent, their own development at 31.7 percent, and reverse engineering at 11 percent. Therefore, in joint ventures, the degree of reliance on the introduction of technology and research on technology is much higher than development of technology by the enterprise itself.

### III. Form and Methods of Transfer of Technology

A. The greater part of transferred technology is the prevailing technology successfully used in advanced countries commercially, and world hi-tech level technology is only 8.2 percent.

If we look at the levels of technology transferred, the prevailing technology of advanced countries, at 50.7 percent, by far shows the highest rate; next, at 38.1 percent, is technology utilized recently in advanced countries; declining technology of advanced countries or suitable technology at 11.9 percent; and world hi-tech technology at 8.2 percent.

In the transfer of technology, this utmost importance placed on prevailing technology is interpreted as showing that rather than pursuing the independent development of the technology of advanced countries, the emphasis is placed on marketability, and the transfer of technology that has already been used successfully commercially is being achieved.

B. In the case of technology transfers in joint ventures, know-how, informational data on technology, and technological instruction are especially more advantageous than other sources of introduction

For foreign investment enterprises, in carrying out the development of technology, the highest degree of reliance is on the introduction of technology from joint-venture sources, and the degree of reliance on joint-venture sources for technical support is also high. Therefore, it can be seen that technology transfers are being achieved mainly in the form of the introduction of technology and technical support through joint ventures.

The forms of technology transfers from joint-venture sources can be classified as the right to apply a patent, the right to use a trademark, know-how, informational data on technology, technical services, technical instruction, education, training, etc., and when technology transfers from joint-venture

sources occur, especially know-how, informational data on technology, technical instruction, etc are much more advantageous than in other sources of introduction. Therefore, in sectors where it is difficult to expect any efficiency with such methods as development by the enterprise itself or introduction of general technology, it can be seen that foreign investment enterprises have many advantages.

This kind of result is explained as coming about because foreign investment firms have much interchange with and maintain a close relationship with joint-venture sources.

3. From the perspective of the limiting conditions of the introduction of technology, in the introduction of technology from joint-venture sources the limitations on the right to apply a patent and the export and sales market are more disadvantageous than other sources of introduction.

If we look at the different conditions of technology introduced from joint-venture sources, most of the conditions are more advantageous than other sources of introduction. Among these, the conditions of the quality of manufactured products and guaranteed performance and of educational training and instructions are shown to be the most advantageous, but the limiting conditions on the right to apply a patent and exports and sales are, on the contrary, more disadvantageous. Therefore this suggests that the transfer, and export, and sale of technology provided by foreign investment enterprises are more limited than other sources of introduction.

#### IV. Environment of Foreign Investment in Our Country

A. As concerns the investment environment of our country, foreign investors recognize the level of technology, infrastructure, and scale of the market as good, but they appraise wage conditions, government policy, and nationalism as bad.

In comparing the investment environment of developing countries (Taiwan, Singapore, Hong Kong, Brazil) starting with our country, foreign managers are appraising our country as the highest, for its level of technology and are appraising the infrastructure and scale of the market at a relatively high second place. Therefore, from the point of view of the level of technology, infrastructure, scale of market, etc., the investment environment can be seen as relatively good.

However, in terms of wage conditions, Korea occupies third place after Brazil and Taiwan and this shows that recently we are losing predominance in low-wage manpower, government policy as concerns national risk and foreign investment each occupy fourth place, and from the point of view of nationalism Korea occupies last place. Therefore these things indicate that the investment environment is being appraised as relatively not good.

B. As concerns the tendencies of the appraisals of the environment for investment in Korea by different foreign managers. American managers have the worst [source text dropped line].

On the one hand, if we compare the appraisals of the investment environment in Korea by different foreign managers, in all items except scale of market, it has been shown that American managers do not see the investment environment of Korea as favorably as Japanese and European managers do.

This evaluation by American managers is being interpreted as being connected with the various disputes, starting with trade, that are arising between the United States and Korea.

#### Countermeasure

##### 1. Urgent need for a general appraisal of favorable and unfavorable functions in attracting foreign investment

Our economy is one with a high degree of reliance on foreign countries, that is lacking in resources, and is promoting an economic development policy based on exports, and the actual conditions are such that recently a system for internationalization is being further strengthened, both autonomously and heteronomously, due to various kinds of pressure to open the economy by advanced countries.

Consequently, in the area of foreign investment too, a measure for swift liberation of trade has been achieved in recent years, and in accordance with a government plan to attract foreign investment, by greatly improving the investment environment with all kinds of incentives starting with a relaxation of inspection criteria, an expansion of approved businesses, etc., the promotion of investment has also been very efficacious.

However, as is apparent from this investigation, the major motives for attracting investment center on the transfer of technology, and yet, as concerns the degree of success in attaining goals, the results are being assessed as lower than expected; moreover, with the policy of liberalization in foreign investment, the phenomenon of a deepening of investment in service industries instead of manufacturing industries is being pointed out as a problem.

And then, as the scale of foreign investment in our country is still small and stops at about 7 percent of foreign capital introduced, there is an urgent demand for a general analysis and appraisal of the favorable and unfavorable functions in attracting foreign investments.

##### 2. Continuous improvement of and strengthening of base of understanding of foreign investment environment

At this time, when the foreign investment environment has been greatly improved, in order that foreign investors contribute to our people's economy to the greatest extent possible, it has been concluded that there is a need for various measures so that attracting foreign investment based on technology-intensive manufacturing industries can be achieved, and together with this, there is also an urgent desire for diversified endeavors to improve the foreign investor's understanding of the fulfillment of all kinds of obligatory provisions in foreign investment already authorized such as export responsibility, rate of conversion to domestic production, etc.

In particular, we must take into account that elements of dissatisfaction that have recently been raised with the investment environment of our country by foreign investors such as industry restrictions, the approval system, limitations on the rate of investment, the system of tax reductions and exemptions, etc., have, by means of the July 1984 policy of greatly expanding the approved range of foreign investment, been greatly improved, and as regards this kind of government policy concerned with promoting foreign investment and the gist of its improvements. We must strengthen the publicity directed at, and the base of understanding of, foreign enterprises advancing into Korea.

### 3. Priority support given to attracting technology-intensive foreign investment

Generally speaking, it is apparent from the results of various investigations that the greatest expectation of enterprises attracting foreign investment is the smooth transfer of technology, and in this investigation too the transfer of core technologies is the greatest motive for attracting foreign investment. However, according to the results of this investigation, the facts are that, on the whole, it is not evident that the transfer of technology from joint-venture sources is much more advantageous than the transfer of technology from other sources of introduction, and especially as concerns core technologies, the major goal of attracting investment, joint-venture sources are avoiding the transfer of technology. Therefore the degree of success in attaining this goal is very low.

Moreover, even if we look at the activities to develop technology by foreign investment enterprises, as concern securing research manpower and investing in development of technology, they fall far behind domestic enterprises, and the tendency of relying on joint-venture sources for technology is very high. Thus activities for the development of technology are very unemphatic, and the majority of even the technology transferred, as technology already fully developed, is of the same level as the prevailing technology in advanced countries. Accordingly, as concerns attracting foreign investment enterprises, we must minimize the dominant causes of the increases and decreases in management results brought about by the counterproductive motives of attracting investment and of advancing into a country by placing priority on technology-intensive enterprises.

### 4. Enhancement of ability to negotiate that will promote the transfer of core technologies

In order to stimulate foreign investment enterprise technology transfers, the enhancement of the ability to negotiate and the strengthening of an ability to receive such technology that will preferentially induce the smooth transfer of technology is a very urgent task.

In order to stimulate the transfer of technology, we must positively endeavor to establish--by means of maximally enhancing the practical abilities to improve and assimilate and use transferred technology--a foundation that can receive a higher level of technology, and to strengthen the ability to negotiate so as to promote the transfer of core and high-level technologies because there are limitations to the strengthening of the continuous development of enterprises and international competitiveness by means of the practical



application of the prevailing technology which is based on a low-wage labor force.

On the one hand, when the government screens foreign investment, by means of a strengthening of the ability of technical appraisal and a deep analysis of the possibility of technology transfers and their spreading effects, a prior investigation that will achieve a smoother transfer of technology must follow.

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S.KOREA/ECONOMY

ASSEMBLYMEN RAISE QUESTIONS ON UNEMPLOYMENT, OTHER ISSUES

SK150132 Seoul THE KOREA TIMES in English 15 Jun 86 p 1

[Text] Assemblymen of rival parties approached from different angles the solution of unemployment and other problems at an interpellation session yesterday.

Rep Kang Chang-hui of the ruling Democratic Jusitce Party said that the promotion of social welfare is a key to ease social conflicts and strains.

Meanwhile, Rep Cho Sun-hyong of the main opposition New Korea Democratic Party asserted that the establishment of a "democratic government" which is elected freely by the people will cure all social ills.

Rep Cho Il-mun of the DJP noted that the restoration of morality will help tackle various social irregularities such as extravagance.

Taking the floor first, Kang maintained that the government should switch from the present economic development policy, aiming to seek the quantitative growth of the CNP, to welfare promotion policies to improve the quality of people's lives.

He asked Prime Minister No Sin-yong to reveal the government plan for the expansion and stabilization of employment.

He noted that the number of jobless persons has reached 640,000 of the total 15.44 million people of working age at present, while new manpower of 360,000 "comes out" every year.

He went on to ask how the government would stop the vicious circle of the inheritance of poverty, disclosing the fact that there are 2,273,000 people whose income remains below the subsistence level, accounting for 5.5 percent of the entire population.

Kang pointed out that the beneficiaries of the medical insurance accounted for, as of the end of April, 54.1 percent of the population, but most farmers, and paupers in urban areas, could not enjoy the benefit.

He added that the promotion of social security is the best counter-measure against the increasing radicalism.

Rep Cho Sung-hyong of the NDP proposed that the government take large-scale lenient measures for political prisoners as a step to seek national reconciliation.

He asserted, "If the ruling camp has the intention to make a historic grand compromise and achieve democratization, a reconciliation step should precede it, as proof."

He added, "At least, the government should release "fighters for democracy" in droves, restore the civil rights of Kim Tae-chung and set free the Rev Mun Ik-hwan, leader of a federation of dissident groups.

Cho strongly demanded that the merger of mass media be put to its original state and dismissed journalists be allowed to return to their jobs.

Cho went on to maintain that the graduation quota and the entrance examination systems should be abolished or corrected.

In addition, such "evil statutes" as the Basic Press Law and the Social Protection Law should be repealed and "venomous clauses" also should be removed from the Laws on Assembly and Demonstration and the National Security Law.

Cho maintained, "The current regime says it will revise the present Constitution, which was a basis of its birth. This means that the government admits the absence of authority and of the democratic nature of the Constitution."

So, those steps which were made in the name of reforms at the birth of the current regime (in 1980) should be reversed."

Rep Cho Il-mun of the DJP, deploring the lack of morality in society, asked Premier No about measures to nourish the "spiritual climate" of the nation.

He said that facing the high tide of materialism of Western countries, our morality "got lost in the thick forest of immorality."

/8918

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S. KOREA/SOCIAL CONDITIONS

POPULATION CONTROL PLANS DISCUSSED

Seoul HANKUK ILBO in Korean 27 Mar 86 p 3

[Text] Our country's population will stop growing 38 years from now, or in 2023, when the total population reaches 52,475,000. We will realize the so-called no-growth population, wherein the population growth rate is 0 percent, which the advanced European and American countries achieved long ago. The population growth rate has been in a downward trend every year, and it fell from 1.57 percent in 1980 to 1.25 percent in 1985 (the 1980-1985 average was 1.49 percent). The government predicts that such a trend will continue into the future, achieving 1 percent in 1994 and finally 0 percent in 2023.

Of course, it will not happen without effort, and it can be considered as sort of a conditional outlook that assumes the effectiveness of all the government's existing and planned population policies. Thus, in case various measures do not prove useful, the prediction could be wrong and an even larger population could inevitably result. Our country's population, in terms of density, is the fourth in the world (414 based on 1985 measurement), after Bangladesh (702), Bahrain (692), and Taiwan (459), and is the first, based on usable space, with 1,207 people [area not specified].

The total population, which was 25 million in 1960, has already surpassed 40 million and will surpass 50 million in 2006 or 2007, thereby doubling in size in 40-50 years. Since our country, which is already the world's largest population country in terms of usable space, is expected to increase its population continuously for nearly 40 years (38 years), which even requires a smooth path to achieve the no-growth population at that time, we cannot help but consider it a serious problem.

We cannot just let the population—which is already at the level of overpopulation—to continue to grow under the circumstances of a small amount of land and insufficient resources. The government has deeply recognized the seriousness of the population problem for a long time, but has been extremely sluggish in devising practical measures. Consider just the various policies proposed in the Sixth Provisional Plan, for instance; most of them were already reflected in the (revised) Fifth Plan. Most of them are policies over which a fuss was made but which had little effect.

Since the deep-rooted conception of a preference for males is the major cause of the population increase, to adjust it, the Family Rights Law is to be

widely revised, which calls for a movement toward equal rights for both sexes in the systems of household and inheritance and for elimination of the system and custom of male predominance. However, this policy was proposed even in the Fifth Plan but was never carried out. There were also plans that appeared once or twice through the concerned authorities, wherein the families that stopped their childbearing after one child were to be given various kinds of preferential treatment and support, whereas the families which gave birth to more than three children were to be sanctioned.

The government's idea of using punitive measures to control the population is certainly not without problems; however, the current issue is not the content of the policy measures but rather the fact that the government's attitude and intention toward population policy are too soft. It could be unreasonable to impose punitive measures, including imposition of additional premiums for medical insurance and imposition of discriminatory taxes (inhabitants tax), on the multiple-child bearing families with more than three children, but it cannot be unreasonable at all to provide preferential treatment to one-child families which have stopped bearing children. Hence, stronger, more attractive preferential measures could be devised, such as a preferential right in housing distribution, which once was a subject of criticism, and the expansion of medical benefits.

Moreover, such anachronistic sex discrimination systems as the household and inheritance systems should have been revised earlier whether or not the population policy necessitated it. However, when the government keeps putting off enforcement even after making it a priority policy in population control, it only proves that the government is negligent in population policies or does not understand the seriousness of population problems well enough.

The government plans, during the period of the Sixth Plan, to launch all kinds of strong policies not only to suppress the total population growth but also to correct the imbalance in population distribution such as overcrowding in the National Capital region and the metropolitan areas, but this, too, includes many of those policies that repeatedly became mere talk.

The already overcrowded population is even concentrated in the National Capital region and part of the metropolitan areas, causing all kinds of serious urban problems such as housing, transportation, and pollution, and because of this, the expenditures for maintaining the city's functions (limited expenditures per person) are skyrocketing.

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S. KOREA/SOCIAL CONDITIONS

EDITORIAL ON PROFESSOR REAPPOINTMENT RULE CONTROVERSY

Seoul TONG-A ILBO in Korean 18 Apr 86 p 2

[Editorial: "Professor Appointment Rule Should Be Self-controlled"]

[Text] The professor reappointment rule that was introduced in 1976 is causing trouble again.

Introduced in order to weed out incompetent professors and to promote a research atmosphere in the colleges, the rule has continuously caused friction and feuding between professors who were denied reappointment and the college authorities during its over 10 years in effect. In fact, the criticism has been raised that the professor reappointment rule was abused because of political motives and not applied for the pure purpose of improving the academic research atmosphere.

The recent trouble became known to the world when Professor Sin of Seoul Hansong University, Professor Kim of the Methodist Church's theological college, and Professor Yu of Sejong University were denied reappointment in the first semester but refused to accept it and applied for reexamination at the colleges or filed a petition with the Ministry of Education.

In the case of Prof Yu of Sejong University, if the content of the report is true, the school appears to have left Prof Yu without a reappointment based on political motivations. The school's clarification to the Ministry of Education regarding the decision is that Prof Yu's dismissal was deferred even if he was subject to dismissal in 1980, but if the students dismissed in 1980 become linked with Prof Yu after readmission, it will not help the campus stabilize. If the school's explanations is the only reason for leaving Prof Yu out, we cannot help regarding Prof Yu's case as an abuse of the professor reappointment rule.

It is certainly reasonable to raise the quality of professors in order to improve the standard of college education. It is difficult to conclude that the professor reappointment rule, which set out with such an objective, has not contributed at all to raising the quality of professors; but the problem is serious where this rule has created more adverse effects than orderly effects. There seems to be a large number of signs of abuse because of political motivations or other reasons rather than by the purely academic objective. This is not to say that all of the terminated professors were victims of the abuse.

It is inevitable that in order not to become a sacrificial offering, professors try to read the outside world's or the authorities' minds when doing academic research and making presentations. Government authorities should deeply reflect on whether or not the reappointment rule eventually turned professors into weak opportunists or dwarfish characters, thereby undermining their dignity. The campus climate, in which outsiders are checked out, will, after all, pull back even further our educational standards which fell behind compared with advanced countries.

In December 1984, the DJP said that it would study the question of retention or abolition after considering the criticisms of the professor reappointment rule, but it has not yet prepared a remedy. The Korea Educational Federation, too, criticized problems of the rule on 5 March and publicly pledged to prepare a remedy.

Considering the misapplication of the professor reappointment rule, along with the necessity of raising the educational autonomy in preparation for the 21st century, the authorities should abolish this controversial rule and leave the appointment rights to each college. In return, each college should establish its own rigorous standards for appointment and promotion and should individually drop the incompetent professors.

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S. KOREA/SOCIAL CONDITIONS

PUBLIC DEBATE ON EDUCATIONAL REFORM DISCUSSED

Lowering of School Age Proposed

Seoul TONG-A ILBO in Korean 28 Mar 86 p 1.

[Unattributed article: "Let Us Lower Elementary School Age to 5; Public Hearing Sponsored By Educational Reform Council Proposes That Age up to Middle School Be 8 Years; Current 6-3-3-4 School System Should Be Changed; College Should Also Be Reduced by 1 Year Depending on Majoring Subjects"]

[Text] A proposal has been made to the effect that the elementary school age be lowered to 5 from the current 6.

Such a proposal was jointly made by keynote speakers and discussants at the seventh public hearing held on 28 March 1986 under the sponsorship of the Educational Reform Council (chairman, So Myong-won) on a theme entitled "Is the School System Okay As It Is?"

At the public hearing of that day, Pak Tong-so, professor of public administration at Seoul National University, asserted in his keynote speech that "since the physical and intellectual capability of children in our country has greatly improved, I propose that the elementary school enrollment age be lowered to 5 on the condition that preschool education be expanded."

Ham Chong-kyu, professor of pedagogy at Sungmyong Women's University, also asserted in his keynote speech that "it is reasonable that the elementary school age be lowered to 5 step by step, starting from those areas which allow that." And most of other discussants also expressed more or less similar views. (See page 3 for a related article)

The Educational Reform Council is planning, on the basis of the views expressed in the hearing, to collect the views of various circles, to set forth its first proposal for the development of the school system by the end of this year, and to get its final proposal by the first half of next year through continuous research and discussions.

Professor Pak asserted in his speech that day that "the elementary school enrollment age be lowered to 5, that the current 9-year education period from



the elementary--6 years--to the middle school--3 years--be reduced to 8 years, and, in particular, that the middle school education course of 3 years be checked for reform.

Prof Pak went on to assert that "in the case of colleges and universities, too, the school period be reduced at least by 1 year depending on the major courses, that the current 4- to 6-year school period be reorganized into a 3- to 6-year one, and that, as for the master and Ph.D. courses too, the current system be reformed so that a Ph.D. degree may be acquired in 4-5 years after graduating from the university courses."

Prof Pak said that "while reducing the elementary school period, the current basic 6-3-3-4 school system--from high school on--must be reformed by means of establishing a double line of school courses."

Meanwhile, Professor Ham, while asserting that the current school system be maintained as it is, proposed that "reforms be made in the phase of the management of functions while maintaining the basic formula of the current school system." He then said that "elementary and middle school education must be made compulsory and a double-track school system must be sought in such a way in which the course from high school on will be diversified."

Prof Ham pointed out that "problems are arising in that practically no lateral shiftings of students is allowed after choosing a school." He then proposed that a diverse collateral school system be established by activating higher technical schools, public entertainment schools, and physical training schools and that supplementary functions be stepped up for the current basic school system by reforming education courses.

In the public hearing that day, Kim Ho-kil, dean of the P'ohang Engineering College, emphatically urged that, instead of teaching many courses at low standards in high schools, a small number of courses be selected and taught in depth for 5-6 hours a week. Professor Kim Sin-il of the Seoul National University asserted that it is imperative that a system be established so that diplomas of various levels of schools may be obtained by taking graduation examinations and that students be allowed to go on a next higher-level class by taking examinations.

#### Current School System Reviewed

Seoul TONGA ILBO in Korean 28 Mar 86 p 3

[Article by reporter Kim Sok-hyong: "'Nine Years To Graduate to Middle School' Is Too Long; Elementary Schooling Should Start Earlier Because of Improved Physical and Intellectual Capability; It May Be Desirable That the Current System Be Sustained and Its Management Improved; Public Hearing of Educational Reform Council"]

[Text] The seventh public hearing of the Educational Reform Council, which was held on 28 March on the theme entitled "Is the School System Okay As It Is?" is significant in view of the fact that it represents a first-step event designed to review, on a full-fledged scale, the school system that is at the

core of education in order to check whether it is fit for the conditions of our country and for the requirements of our state and society.

A reform work that involves changes in the school system is very noteworthy in that the school system is closely related to all the educational systems and educational problems pending, including the content of education, the equality in education? [TN: a word kogyo is not clear], and the enrollment system in schools of all levels.

Those specialists concerned who took part in keynote speeches and discussions on that day pointed out in unison that the current school system of our country has become too rigid and uniform.

However, participants in the hearing that day proposed two separate development schemes, including replenishing shortages in and reforming of the system, on the basis of such a unanimous evaluation regarding the basic structure of the 6-3-3-4 school system which has been maintained for 35 years.

On the part of the Educational Reform Council, which sponsored the public hearing, the schedule was arranged in such a way that keynote speeches would be delivered on two separate themes, including reforming and sustaining the current system--differently scheduling from those previous public hearings, including the 6th--in view of the fact that changes in the school system greatly affect the educational system of our country. The reason for that was that the council found the following two separate assertions among the various circles, from which the council had collected data in a basic project that was carried out for the cause of development of the school system: 1) that the basic structure and the management be reformed comprehensively in any reform of the school system and 2) that the basic structure should be sustained but active efforts be made to effect partial replenishments of shortages in the structure and reforms in the management of the system.

The most noteworthy among the proposals made at the public hearing for the development of the school system was that the elementary school age be lowered to 5 years from the current 6.

Such a proposal, which was raised unanimously by keynote speakers and discussants, was based on the fact that the political, economic, and social conditions changed greatly compared with those in 1951, the year in which the elementary school age was set at 6 and made effective, and on the prospect that such conditions will change greatly from now on also.

Above all, one may point out that children's physical and intellectual capability has improved greatly. On the other hand, basically speaking, the content of our school education which our children actually get is not substantial; private educational expenses are getting higher; an every man must go into the military service once. Thus the age at which children finish their education and enter society is too high.

A number of advanced countries have already lowered their elementary school age. In particular, the authoritarian and socialist countries tend to intensify children's education by means of the policies and systems they are adopting. Professor Pak Tong-so of Seoul National University noted that "in

the case of our country, it is imperative to lower the school age in order to bring up more desirable Koreans in greater numbers in a more effective manner in view of the fact that resources are limited, that we depend highly on manpower factors, and that an overall reform of elementary, middle, and college and university education courses is also necessary." Proposing that the school period from the elementary school to the middle school be reduced by 1 year in addition to lowering the school age, he cited the reason for it as follows: that our realities are such that a 15-year old who enters on the labor market after 9 years of elementary and middle school education which entails a lot of difficulties as well as expenses would not get more pay than an ordinary manual worker.

A play-it-safe proposal, agreeing on the necessity of lowering the elementary school age, asserts that the lowering be implemented step by step. Such a proposal has its own propriety, too. The reason for that is that a sudden lowering of the school age may cause a problem, like the one related to the limited accommodation capability, as things stand now. Another reason is that even among those children of school age, there are differences in their capability level depending on geographical regions. Therefore, the proposal says, even if the school age is lowered, it is necessary to adopt the method of lowering it step by step. In particular, in the case of lowering the elementary school age, the prevailing view is that an expansion of the education of preschool children is an essential prerequisite for lowering the age.

Meanwhile, Professor Ham Chong-kyu of Sungmyong Women's University asserted that "the current 6-3-3-4 school system has no problem whatsoever in terms of its structure; therefore, its further development must be sought in the phase of management." The 18-year achievement education system, in which school education is divided into three steps--elementary (primary school), secondary (middle school), and higher (colleges and universities)--3 years in each step--has been carried out until today since J. A. Comenius, (1592-1670) started it. Among 144 countries of the world, 73 of them have a 12-year--up to secondary education--school system and 33 of the 73 have the 6-3-3 basic school system. (Cited by Professor Yi In-chong)

Each of these school systems has its own merit. Since secondary education is under the 3-3 system, even in those schools in rural and remote areas, the number of dropouts are almost nil, it is noted. It is also asserted that the system under which the secondary education is set for 5-6 years has an advantage that student groups do not get too large--this is a matter of fact--and that no problems arise in connection with the content and method of education--problems that may arise when heterogeneous groups live in one school in the course of their growth and development.

The issue of the reform of the school system has been debated more in political circles rather than in the administrative branch of the government or in school circles. Reforms of the school system were often taken up even in election campaign pledges. During the debates on the school system, the following views came up: that "the current school system is not ours originally; it began in the United States, in the first place, and so it belongs to the United States, not us"; that "as for compulsory elementary education, preschool education must be made compulsory and the elementary school course must be reduced to 5 years"; that "secondary education must not only be

integrated but also be reduced by 1 year"; and that "the entrance examination hell must be abolished to lessen the burdens on the part of the parents of school children."

Since the issues related with the school system have something to do with the overall educational system and, if there is anything wrong with a reform of the school system or if the reform fails to become effective, there would be enormous confusion and damage. Therefore, views regarding the proposed reforms got to be diverse.

At the public hearing, Kwon Yong-cha, director of the Office of Research of the Korean Women's Development Center, expressed her views with emphasis on female education. Professor Kim Tok-chung of Sogang University emphasized the finances of colleges and universities and the need to strengthen the autonomy of colleges and universities. Kim Ho-kil, dean of P'ohang Engineering College, put forth ways of further developing the school system with emphasis on the superiority of education and the education of gifted children.

In view of the fact that errors and mistakes have been made so far in connection with reforms, improvements, and changes in educational policies, it is imperative that a wide range of views on reforms of the school system be brought together and that any proposed reform be examined carefully for a long period of time with caution.

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S. KOREA/SCIENCE AND TECHNOLOGY

MINISTRY OF COMMUNICATIONS KEY PROJECTS FOR 1986

Seoul CHONGBO SANOP in Korean Mar 86 pp 52-53

[Text] The following data are excerpted from key portions of the recently released Ministry of Communications report on key projects for 1986.

- I. Promote Advancement of Communications Network
  - A. Domestic communications network
    1. Construction of fiber optic communications network
      - a. Construction of an optical path along the expressway
      - b. Laying of fiber optic cable
        - aa. Seoul-TaeGu and Taejon-Ch'onChu, etc. a total of 695 km
        - c. Construction of an undersea fiber optic cable between the mainland and CheChu Island
          - aa. Fix KoHung of ChonNam Province and SongSanPo of CheChu Island as landing points
          - bb. 1986: work out design and place orders; 1987-88: carry out construction and open facilities for use
      2. Formation of high-speed circuit operator network
        - a. Completion of electronic telephone exchange in five major cities and addition of the ability to transfer information at high speeds
        - b. 1986-87: conduct operational test by linking with Telex and by creating high-speed facsimile
        - c. 1988: inaugurate services

- B. Modernization of international communications
  - 1. Participation in construction of undersea cable in Pacific Ocean
    - a. Make provisions for shortage in capacity of and approach of end of usable lifetime of existing facilities
      - aa. Area: between Korea-Japan-Hawaii-Guam-United States
      - bb. Construction period: 1986-1990
      - cc. Estimated cost: \$936 million (Korean share, \$55 million)
    - b. 1986 program to promote this project
      - aa. Sign protocol on construction and repairs
      - bb. Survey the ocean and set to work on plan
- C. Efficient support for main electronic computer network of nation
  - 1. Strengthen support which follows in the wake of construction of main computer network in five major cities
    - a. Standardize information retrieval, management, and methods of transmission
    - b. Propose conversion to domestic production of communications equipment, main electronic computers, etc.
    - c. Develop and disseminate Korean-made office machines and tools with multiple functions
  - 2. Promote the establishment of support companies for the administrative computer network
    - a. Huge amount of capital needed for the construction of the six systems in the administrative computer network
      - aa. Amount of development investment already put in by HanGuk Data Communications, Inc.: 15 billion won
      - bb. Amount recovered from departments using facilities after development is completed
    - b. System development capital support and dissemination of needed machines and tools
  - 3. Promote the establishment of the Korean Electronic Computer Institute
    - a. Research and development of systems engineering and the elementary technology of software

b. 1985: complete deliberations with concerned departments; 1986: promote establishment

D. Dissemination of information communication services

1. Voice mail box service

a. Storage and use of voice information in computers by means of telephone

b. 1986: practical use for Asian Games

2. Korean-language electronic mail box service

a. Storage and use of Korean-language data information in computers by means of peripherals

b. 1986: selection and development of system

c. 1987: commercial service

3. Video Text

a. Computer information retrieval by means of telephone and TV screen

b. 1985-86: development of peripherals and formation of test system

c. 1987: operational test; 1988: practical use for 1988 Olympics

4. Reservations and credit information system

a. Air travel, motels, rail reservations, and credit card inquiries, etc.

b. 1986: deliberate the appropriateness of; fix direction of

c. 1987-88: demonstration installation and operation

II. Disseminate Information Communication Services

A. Conversion to domestic production of and acceleration of exports of communication equipment

1. Continuous strengthening of purchasing indicator system

a. Expansion of predicted items for 3-year intermediate-term purchasing plan

aa. From 170 to 200 items

b. A concrete forecast on the period of application for technology needed in the intermediate/long term

- aa. Elevate the effectiveness resulting from the in-country development period
- 2. Strengthen balance of trade offset in communication equipment
  - a. Strengthen conditions in purchase of Korean-made parts and transfer of technology when purchasing foreign materials
  - b. Actual results of 1985
    - aa. Demonstration of application of operator exchange at time of purchase
    - bb. Effect on exports: \$18.59 million
    - c. 1986 plan
      - aa. Expand those items targeted; equipment with an annual sales total of more than \$1 million
      - bb. Strengthen cooperation with concerned organizations and carry out appraisal of actual results
- B. Communication parts and the fostering of medium-size and small industries
  - 1. After a survey of actual conditions, make selection of those targeted for aid and fostering
    - a. Parts fostered: seven items including printed circuit boards (PCB)
    - b. Promising medium-small enterprises: 15 businesses including HanGuk ChungMyong, Inc.
  - 2. Kinds of aid:
    - a. A total of 3.5 billion won in financing
    - b. Technological guidance and promotion of purchasing aid
  - 3. Medium-small enterprises given first priority in transfer of domestically developed technology
    - a. Card system public telephones
    - b. Collective safety devices for subscriber lines
  - 4. Support discovery of promising medium-small enterprises
- C. Establishment of a quality warranty system
  - 1. Construct a quality warranty system in accordance with international standards



- a. 1985: carry out application of a quality warranty operation with hi-tech equipment
- b. 1986: convert test inspection operation into a quality warranty system
- 2. Activation of a form approval system for communication supplies
  - a. Expand the number of items being dealt with from two to four
  - b. Induce businesses on their own to elevate product quality and development
- III. Develop Technology and Foster Superior Manpower
  - A. Efficient promotion of study of national policy and development work
    - 1. Development sectors stressed
      - a. Technology for communication-information systems
        - aa. Complete electronic exchange and fiber optic communication technology
        - bb. Information management and transmitting technology
        - cc. Technology for Integrated Services Digital Network (ISDN)
      - b. Technology for planning and manufacture of semiconductors and computers
      - c. Technology for system engineering software
      - d. Investment of more than 3 percent of total annual income on research and development
    - B. Development and conversion to practical use of core technology
      - 1. Development of a completely electronic telephone exchange
        - a. Fix the establishment of a small-capacity telephone exchange
          - aa. 1985: install 24,000 circuits in four areas
          - bb. 1986: expand to provide 189,000 circuits in 24 areas
        - b. Design a large-capacity (50,000 circuits) system and commence manufacture of an experimental model
      - 2. Test practical application of a city-style, completely electronic telephone exchange
        - a. Carry out a second test and general appraisal

3. Develop fiber optic communications
  - a. Promote standardization and transfer to businesses of existent technology
  - b. 1986: development and practical testing of long wavelength, high-speed single mode
4. Development of technology for semiconductors and computers
  - a. Develop semiconductors exclusively for use in communications
  - b. Support the development of super-large memory chip for industry
  - c. Promote the development of Korean-made computers for use in administrative computer network
- C. Securing of manpower with knowledge of high-grade technology
  1. Carry out special overseas training
  2. Support the fostering of manpower with knowledge of technology of communication and information systems
    - a. Fostering of manpower by means of the KIST course on information and communications
      - aa. Contribute a total of 2.6 billion won from 1984 to 1986
      - bb. Secure 206 workers for the Communications Public Corporation by 1991
      - cc. Expand it to a communication and information engineering course and deliberate on a program of support
    - b. Support the College of Science and Technology's course on information and communications; contribute 500 million won as money for research professorships
  3. Foster computer personnel for the Information and Communication Training Center; from 1,970 to 3,030
- IV. Support Communications for the 1986 Asian Games and 1988 Olympics
  - A. Early completion of facilities
    1. Those used for 1986 Asian Games; finish the end of 1985
      - a. Open some facilities for use when construction of related facilities are complete
      - b. Testing and reinforcement: by May 1986
    2. Those used for 1988 Olympics: completed by the end of 1987

B. Special measures to be carried out for clear communications in 1986 Asian Games

1. Install an organization that is responsible for facility operations
  - a. In sports arenas and in related organizations, 59 places
  - b. Period of operation: June to the end of October 1986
2. Operation of communications service center
  - a. Sports arenas, press center, athletes' village, etc.
  - b. Thirty-one post offices, 34 telegraph and telephone agencies
3. Expand the installation of equipment that searches out dangerous postal matter
4. Plan for related support
  - a. Publication of telephone book for Games
  - b. Asian sports stamp exhibition and issuing of commemorative stamps (KIIA)

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S. KOREA/SCIENCE AND TECHNOLOGY

EFFICIENT UTILIZATION OF NUCLEAR ENERGY DISCUSSED

Seoul WONJARYOK HAKHOE JI [JOURNAL OF THE KOREAN NUCLEAR SOCIETY] in Korean  
No 4, 1985 pp 356-360

[Article by Kim Si-hwan and Yi Sang-kun, Department of the Light Water Reactor Nuclear Energy Project, ROK Energy Research Institute: "Efficient Utilization of Nuclear Fuel"]

[Text] 1. Introduction

In a country, like ours, where the indigenous sources of energy are scarce, the energy problem is of importance in that it is directly related with the economic stabilization of the state. The limited energy resources in our country, the necessity of security such energy resources as capable of supplying low-cost stable electric power, and the problem of environment make it imperative for our country to develop atomic power generation as its major source of energy.

The atomic power generation has been developed as a promising energy source. In particular, due to the oil crises that occurred in the 1970's, it has been developed and promoted strongly as an energy that can replace oil. The reason that the atomic power generation was able to maintain superiority over power generation by fossil fuels until the latter half of the 1970's is that it had maintained a conspicuous advantage in the economic aspect by means of the low cost of nuclear fuel. However, since the current domestic economic conditions, including the accumulation of foreign debts, are facing great hardships, the economic superiority of atomic power over bituminous coal thermal power generation has been reduced and, in the long run, that caused a scale-down in the atomic power generation plan, which is a large scale foreign loan project. In particular, the delay caused in the construction due to the fact that the safety regulations were tightened in the United States and the increase caused by that in the construction expenses have become a major cause for the power company to avoid fresh investment in atomic power plants. Under such circumstances, it is of great importance that efforts should be made to improve further the reliability and economic advantage of atomic power generation; and it is imperative that the ways of doing so be studied in many aspects.

The constituent parts of the power generation expenses at an atomic power generation station are the construction cost, operation and maintenance cost, and nuclear cycle cost. Among those costs, the nuclear fuel cycle cost occupies

15 percent of the total power generation expenses, provided that the coefficient of utilization of the power generating station is set at 65 percent. Therefore, even if the coefficient of utilization of nuclear fuel is maximized, the retrenchment effects of the unit cost of power generation are really stupendous, although the retrenchment effects are apt to be evaluated as insignificant in terms of a long term effect during the life span of the power generating station. Furthermore, in view of the facts that the efficient utilization of nuclear fuel directly affects the improvement of the coefficient of utilization of the power generation station and the lengthening of the life span of operation, and that the realities of our country are such that the indigenous resources of energy are scarce, the efficient utilization of nuclear fuel is the very objective that should be sought urgently.

At present, in our country, the pressure light water reactor serves as a mainstay of the atomic power generation station, which is being operated commercially; thus, in this article, ways to efficiently utilize nuclear fuel will be presented exclusively for the case in which a pressure light water reactor is used.

## 2. Points at Issue Regarding the Current Nuclear Cycle

The efficient use of a fuel is aimed at producing the maximum amount of energy from the unit amount of extracted fuel with the most economic method. However, in the case of atomic power generation, while there is a plan in which the uranium resources may be conserved, there may be a plan, on the other hand, in which the unit cost of power generation may be reduced while the use of uranium resources is increased; thus choices available are diverse. Even those plans in which uranium resources may be nursed include both comparatively simple ones and very complicated ones; and, although the economic effects are great, the employment of such a plan may be restricted because of economic and policy concerns.

For example, if, after fuel is burnt in the light water reactor, the used nuclear fuel is chemically reprocessed, usable uranium and plutonium are recovered, and the recovered uranium and plutonium are recycled in the light water reactor or in the high-speed power breeder reactor, one can say that the economic effects of uranium resources become really great. However, the situation is such that the development of a high-speed breeder reactor is being delayed because of many factors, including too great a construction cost of the reactor. And, as for the recycling of plutonium in the light water reactor, the cost of reprocessing is still high and the proliferation of nuclear weapons is feared; therefore, the actual implementation of the recycling is being greatly delayed, although the technology has been firmly established.

Therefore, as things stand now, the recovery of usable uranium and plutonium through reprocessing nuclear fuel after use is very much uncertain. Thus the world trend regarding the utilization of nuclear fuel is focused on research premised on the once-through fuel cycle. In this article, too, plans of efficient utilization of nuclear fuels will be presented in terms of the once-through fuel cycle.

### 3. Plans for Efficient Utilization of Nuclear Fuel

At present, in the case of the once-through fuel cycle, the following three are known as most reasonable as the plans of efficient utilization of nuclear fuel in a pressure light water reactor: 1) The improvement of the reactor core design and the management technology; 2) a long cycle operation; and 3) increasing the utilization rate. These are organically related with one another rather than independent from one another. As for the first plan, emphasis will be placed on the methods through which uranium resources may be nursed by means of efficient reactor core design and management. As for the second and third plans, this article will deal with those methods through which the unit cost of power generation may be reduced, while the demand for uranium resources may be increased.

#### A. Improvement of the Reactor Core Design and Management Technology

What is referred to as the improvement of the reactor core design and management technology means the difference between our design and management technology and that which is actually employed today. Therefore, this improvement includes the improvement up to the level of the technology that is being researched and developed and the technology which is being practiced in some countries and power companies and which has not been adopted yet in our country.

##### 1. Increase in Waste Combustibility

The current average waste combustibility of the used nuclear fuel in the pressure light water reactor in our country is approximately 33,000 MWD/MTU. It is planned to adopt soon the following method: to increase the waste combustibility up to approximately 39,000 MWD/MTU by means of introducing the optimum nuclear fuel aggregate--reducing neutrons parasitic absorption through changing the constituents of the nuclear fuel aggregate (Inconel spacer grid; Zircaloy spacer grid) and making the H/U rate optimum.

The improvement of waste combustibility is to be restricted mainly in the following two phases: namely, the increase in waste combustibility will increase the period in which the nuclear fuel is loaded in the reactor; and that increase will accordingly cause the increase in the oxidization rate of the outer surface of coated pipes and the increase in the inner pressure which will be caused by the accumulation of fission products in the reactor. In order to solve this problem, actual proof experiments are being actively conducted now. And, even by means of the present nuclear fuel technology, it is expected that the average waste combustibility of the pressure light water reactor can be increased up to 45,000 MWD/MTU by 1990.

When the average waste combustibility, which stands at 33,000 MWD/MTU, is increased in this way up to 45,000 MWD/MTU, it is evaluated that the rate of nursing uranium resources will reach approximately 7 percent.

##### 2. A Low-Leak Loading Model

When the pressure light water reactor is reloaded, traditionally the fuel which has been in the vicinity of the center of the reactor is moved up to the center

and a new fuel is inserted around that fuel in the center. However, the improvement of the technology of designing the center of a reactor, the improvement and utilization of combustible toxic agents (for example, the development of sintered elements, including gadolinia, and of those sintered elements to which boron is applied), and the easing of operational restrictions--all these are indicative of the probability that nuclear fuel can be utilized more efficiently by positioning nuclear fuel within the center of reactor.

This method has been employed as a means of maintaining the health of pressure vessels by means of reducing the exposed amount of high speed neutrons at the welds of pressure vessels of the reactor and, furthermore, as a means of lengthening the actual expected life span of a reactor. However, in connection with the long cycle (for example, an 18-month cycle) operation, with which this article will deal later, it is necessary to adopt a low-leak loading model for the following reasons: that the number of nuclear fuel aggregates is too many to be loaded around the center of reactor; and economic factors.

When this method is employed, one can expect that the consumption of uranium may be reduced by approximately 4 percent, although the amount of uranium needed varies depending on the operation cycle (due to the peak output factor and the restriction on the temperature coefficient of moderators).

### 3. Utilization of Blanket Material

In the power generating reactor, neutron sheaves are rapidly reduced in the vicinity of upper and lower ends of the center of the reactor. Accordingly, uranium of the same enrichment is used for the total length of the nuclear fuel aggregate; therefore, the energy output per unit of investment seems in effect to be reduced. Thus, if the enriched uranium to be loaded into the upper and lower ends of the nuclear fuel aggregate is replaced with natural uranium, it can in effect be expected that uranium resources will be conserved there.

This method is already being used in the boiling water type reactor to some extent; however, it is not utilized widely yet in the pressure light water reactor. This method can be a more powerful one in the case when the restriction on operation is eased when the output at the central part of the reactor is somewhat increased, while the output at the upper and lower ends of the center of the reactor is somewhat reduced compared to the current output.

If a natural uranium blanket is used at the upper and lower ends of the center of reactor, it is in effect expected that uranium resources be conserved by approximately 3 percent more compared to the current nursing rate.

### 4. Adjustment of Axial Output

If a uranium of different enrichment is used depending on the height of the nuclear fuel pole, or if the amount of combustible axial agent is adjusted according to the height of nuclear fuel, it would be possible to acquire a better distribution of axial outputs. In the case of the latter, the ASEA-ATOM of Sweden is already utilizing it for the boiling water type reactor; and it is reported that the uranium conservation effect has reached approximately

3 percent. However, as for the utilization of this technology in the pressure light water reactor, not only is its future not clear but also it would be very difficult to evaluate the effect of conserving uranium.

Furthermore, this method has a shortcoming that the plastic processing expenses would inevitably increase; however, it is expected to have the effect of conserving uranium resources which would be similar to that of the case of the boiling water type reactor.

#### 5. Coast Down Operation

The coast down operation is a reactor center management technique in which the length of the operation cycle is to be extended by lowering the temperature of the cooling water or by lowering the reactor output rating, when there is not enough room for excess reaction at the end of the cycle. In other words, it is a reactor center management technique designed to lower the power output of the power generating station gradually or in the form of an stepped function until it reaches an optimum output rating. The period of coast down operation can be made optimum until when the overall economic efficiency, with regard to the power grid of the power company, reaches its maximum; or, depending on circumstances, it can be extended until the time when the economic efficiency remains the same whether or not there is a coast down operation.

Since the amount of entrained air in the cooling water of the pressure light water reactor is almost nil in the state of full output, more restriction will be imposed when the coast down operation is conducted on the pressure light water reactor, compared to when it is conducted on the boiling water type reactor. However, the effect of nursing uranium at the time of coast down operation, as long as the economic efficiency is kept at maximum, is approximately 4 percent--identical in both cases--it is estimated.

#### 6. Easing Restrictions on Operation

There has been a tendency that designers of the center of a reactor makes the nuclear fuel loading model in such a way in which the output distribution at the center of the reactor becomes very much even because of safety related restrictions on the center of reactor. Unfortunately, such a practice is behind in the efficient utilization of nuclear fuel compared to such a design made in such a way as to heighten a local output, including in particular that in the vicinity of the center of reactor core.

What we must take as a matter of fact in this case is that, in the early period of development of a reactor, much room was left for design improvement due to the inexperience in technology. However, today when the designing technique has greatly improved, excessive room puts restraint upon designers themselves and imposes restrictions on the introduction of the more flexible reactor center management technology.

Since the early 1970's, in order to prove the safety of the center of the reactor under accidental conditions, experiments and theoretical programs have been conducted widely in many countries. Through these programs, conclusions



have been drawn that the safety of an optimum standard could be maintained even when restrictions on local outputs of nuclear fuel are eased. On the basis of such facts, it is expected that today's restricting conditions on nuclear fuel will sooner or later be eased--maybe just partially. And, thus, it is again expected that plans will be presented so that the distribution of outputs in the center of reactor may be improved to allow more efficient utilization of nuclear fuel.

In addition, such a calculation model or method that is capable of watching the local output distribution in the center of reactor has been developed; and it is a current tendency that restrictions caused by the insecurity of measurement and calculation of the present day output distribution are being reduced.

The combination of these two factors provides a room in which nuclear fuel can be utilized more effectively. In the case of the pressure light water reactor, it is estimated that the effect will grow greatly when one combines the low-leak reactor center loading model, which is described in the preceding portion of this article. and the plan of increasing the utilization rate which will be described in the remaining portion of this article.

## 7. Nuclear Fuel Services

Nuclear fuel services, conducted to maintain the integrity of the nuclear fuel aggregate and the parts of the reactor, include those services related to the transportation, handling, inspection, and measurement of nuclear fuel and the repair and storage of damaged nuclear fuel. In particular, they are to improve the safety of the reactor by quickly inspecting and determining the damage to nuclear fuel during reloading; and they are to heighten the operation rate of the power station by shortening the period of suspension of operation. Ordinarily the light water reactor is designed and manufactured in such a way in which nuclear fuel is loaded at the core of reactor for a 3 cycle period. However, accidents in which nuclear fuel is damaged or destroyed may occur due to defects of the reactor, or errors in handling procedure. When damaged nuclear fuel is found, the reactor mode design work for an emergency reloading must be carried out or the cause of damage to nuclear fuel must be clearly identified. By repairing the damaged nuclear fuel according to the degree of burning and by utilizing the nuclear fuel that has not burned yet, uranium resources are to be nursed. It would be possible for us to produce domestically the technology and equipment related to these nuclear fuel services, if we fully understand the designs and structure of the nuclear fuel aggregate.

### B. Long-Cycle Operation

Traditionally the pressure light water reactor has been operated in a 12-month cycle mode, which includes the 10-month power generation period and the 2-month suspension period for regular maintenance check-ups and replacing or reloading nuclear fuel. However, of late, plans designed to increase the operation cycle up to 18 months or longer--which might improve the utilization rate of the power generation--have been put forth; and many electric power companies are actually adopting such an operation mode or seriously planning to adopt it.

In our country, too, it is planned to adopt such an operation mode (15-month cycle) at the Atomic Power Plant No 2 around 1987. Other power generating stations, too, have been planning to switch to a long cycle--18-month--operation mode soon. Characteristics of the 18-month cycle are as follows:

First, a greater amount of uranium is consumed in order to produce the same amount of energy.

Generally when the 12-month cycle is used, nuclear fuel is replaced when the demand for electricity is the lowest. However, as in the case of advanced countries, in our country, too, the demand for electricity increases rapidly in summer and winter--twice a year; therefore, it is desirable to adopt an 18-month cycle.

While operating with an 18-month cycle, the needed amount of uranium increases by approximately 12 percent compared to a 12-month cycle. However, a long-cycle operation is inevitably accompanied by the adoption of a high degree of burning and the low-leak loading model; so the overall increase in the needed amount of uranium is not so large. In particular, even if the needed amount of uranium increases slightly, the effect of reducing expenses of power generation would be great due to improvement in the utilization rate. Therefore, it is imperative that a long-cycle operation mode be adopted.

#### C. Improvement of Utilization Rate of Power Stations

The improvement of utilization rate of the atomic power station brings about an increase in the amount of uranium consumption. In other words, when the utilization rate of a power station improves, the amount of energy produced during the same period increases and thus the amount of uranium consumption also increases that much.

Ways of improving the utilization rate of a power station may be explored either from the viewpoint of the one who runs the station or from the viewpoint of the one who designs it. One who runs the station will emphasize the phases connected with the reduction, if possible, of frequency and length of suspension of operation caused by stoppings and accidents, whereas one who designs the station will emphasize ways of shortening the station inspection period and of improving the utilization rate through the increase in output. As for the first method, it is a proposition being dealt with in other articles; therefore, this article will only briefly explain changes in the amount of needed nuclear fuel in that method. As for the second method, this article will deal a little more extensively with the worldwide implementation currently being made.

##### 1. Reduction of Frequency and Period of Suspension Caused by Accidents

The average utilization rate of atomic power stations in Europe and Japan is way over 70 percent, whereas that in the United States it is less than 60 percent. In the case of our country, although our experience in the operation of atomic power stations is not great, its utilization rate is approaching 70 percent on average.

In view of the fact that the technology of atomic power generation that is employed economically is basically identical, it is foreseen that our country, too, will reach 75 percent--Japan's current average utilization rate--by 1990; and it is estimated that the amount of nuclear fuel additionally needed in order to increase the utilization rate to that level will reach at least over 3 percent.

## 2. Improvement of Utilization Rate by Increasing Output

Most of those atomic power stations being operated all over the world at present are potentially capable of increasing the existing output rate. In fact, in Sweden and Finland, they are planning to increase by approximately 6 percent sooner or later the rated output of the boiling water type reactors they own. In France, too, it is studying the probability of increasing, by approximately 4 percent, the output of the pressure light water reactor which France manufactured on its own. What we must take here as a matter of fact is that the increase in the output of the atomic power station is accompanied by the probability of quickening the increase in the amount of needed nuclear fuel. However, only when the introduction of the reactor core management technology and the relaxation of restrictions on nuclear fuel, which are cited above, are combined, can the utilization of nuclear fuel be made optimum and, at the same time, can the output of the power station be increased.

When the rated output of a reactor is increased by approximately 4 percent, it is estimated that the amount of needed uranium will increase by approximately 6 percent.

## 4. Conclusion

Ways designed to reduce expenses of power generation by means of efficiently utilizing nuclear fuel are examined here from diverse angles. Among many factors that make up power generation expenses, the nuclear fuel expenses greatly affect the power generation expenses independently or together with construction expenses and operation and repair expenses; on the other hand, the increase in nuclear fuel expenses caused by the increase in the amount of uranium needed does not necessarily serve as a factor in increasing the unit cost of power generation. If we adopt an optimum method of efficiently utilizing nuclear fuel, we would considerably reduce the unit cost of nuclear electricity. The Han'guk Chollyok Kongsu or Korean Electric Power Corporation has already been employing the low-leak loading model and the coast down operation in order to utilize nuclear fuel efficiently. It is also reported that the corporation is already planning to implement a long cycle operation. As the author sees it, the corporation will, from now on, be able to increase further the utilization rate of the power generating station by means of the following: the increase in the output in the Kori Plant's Nos 1 and 2; the reduction of the test operation period after reloading nuclear fuel; easing restrictions on operation; the domestic implementation of the technology of repairing and reassembling damaged nuclear fuel; and the reduction of frequency and period of accidents and stoppages.

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S.KOREA/SCIENCE AND TECHNOLOGY

DAILY WELCOMES TECHNOLOGY TRANSFER AMONG DEVELOPING COUNTRIES

SK150208 Seoul THE KOREA HERALD in English 15 Jun 86 p 4

[Editorial: "South-South Tech Transfer"]

[Text] So far, Korea has introduced an average of 300 technological items a year from other countries, making its high economic growth possible. As a result, it has now come to find itself on the technological level of simple imitation and invention.

Still, we remain doubtful whether our country has advanced enough, in terms of technology, to be ready to transfer our know-how to other developing countries. Quite understandably, many Koreans counsel that it is as yet premature to begin such transfer, since the possible [word indistinct] would be Korea's current competitors on the world market.

Logically, their worry is that the transfer of our technologies to our competitors would boomerang on us, weakening the competitive edge of Korean commodities overseas. This worry is perhaps similar to that harbored by some advanced countries towards Korea. True though this apprehension may be from a short-sighted, narrow-minded standpoint, it is unfounded when seen from the long-term perspective.

Thus, the Korea Institute for Economy & Technology has been well advised to organize a 6-day international workshop to begin tomorrow in Seoul to facilitate technological transfer among developing countries. Representing 15 developing countries, some 80 industrial experts will participate in the function, titled "tech Trans '86, Seoul." About 50 foreign business concerns, eager to gain foreign high technology, will be represented at the event. The institute will make itself permanently available for counseling on technological transfer.

As KIET officials say, the Seoul workshop will hopefully contribute toward promoting an understanding of technological transfer, joint venture and other forms of economic cooperation among developing countries. The participating countries from Southeast Asia, the Middle East and South America are among those who are commonly confronted with barriers to technological transfer from advanced countries. The technological standards of most of them still remain short of handling advanced high technology, even if obtained.

With all this in mind, the Seoul workshop should set a good precedent for South-South cooperation in genuine, practical terms. Technological transfer, if well carried out, will undoubtedly benefit both sides. This basic fact must be kept in mind for the success of technological transfer. To this end, any short-sighted pursuit of selfish interests should be strongly discouraged.

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CSO: 4100/166

S. KOREA/SCIENCE AND TECHNOLOGY

NEW RESEARCH INSTITUTE FOR ASTRONOMY, SPACE SCIENCE

Seoul MAEIL KYONGJE SINMUN in Korean 26 Mar 86 p 8

[Text] With the aim of specializing in space science and in the research and development of communications satellite, the Astronomy and Space Science Research Institute (director, Kim Du-hwan) made its official start with a signboard-hanging ceremony in Taedok on the 26th, thereby enabling our country to participate in space science research.

By expanding and modifying the National Observatory, and built by the Korea Electronic Communications Research Institute, the Astronomy and Space Science Research Institute will be equipped with systems, including nine laboratories and two observatories by 1990, and will focus on astronomical research, celestial observation, basic research in space science, and the development of medium- and long-term plans for space development.

By the year 2000, the Astronomy and Space Science Research Institute will carry out research tasks for the advancement of space science in three phases, wherein the first phase, 1986-1990, will include the construction and operation of a large-scale, 1.5-meter telescope, the development of software for satellite tracking and orbiting, and the designing of the main body of a communications satellite and the development of its control technology. The second phase, 1991-1995, will include development of a receiving apparatus for radiowaves, research in systems of observation balloons and rockets, construction of a telescope for tracking man-made satellites, and participation in the development of communications satellites using advanced technology.

During the third phase, 1996-2000, it plans to complete the development and installation of a large-scale, 2.5-meter telescope and participate in international joint research on a very low-frequency interferometer, research and development of a scientific satellite observation system, and the development of a communications satellite with our own technology.

In order to carry out such research tasks, in addition to the existing 61-cm optical telescope at the Mt Sobaek observatory, the 20-cm solar telescope, the photoelectric photometer, and the radiowave observatory equipped with a 13.7-meter radio telescope, radiowave receivers, and large-scale computers, the Astronomy and Space Science Research Institute plans to install by the 1990's both 1.5-meter and 2.5-meter large-scale telescopes, a solar radio antenna, a control facility for man-made satellites, and satellite-chasing telescopes.

In addition, the institute plans to expand its professional staff to 98 by 1990 and plans to have them study abroad at NASA in the United States, ISAS in Japan, CNES in France, and ISRO in India.

With the official start of the Astronomy and Space Science Research Institute, our country, too, has become active in space development tasks, including the research and development of satellites and satellite tracing and exploration, with the aim of possessing communications satellites in the 1990's.

The worldwide space industry grew by an annual average of 25 percent for the past 5 years, reaching \$50 billion in 1983, and is expected to reach \$100 billion in 1990 and \$200 billion in 2000. The Astronomy and Space Science Research Institute plans to enter the space industry market by developing a satellite antenna, a satellite center, microreceivers for satellite broadcasting, a solar battery panel for a satellite body, satellite-tracking telescopes, etc.

The Astronomy and Space Science Research Institute consists of the Mt Sobaek Astronomical Observatory (building area, 707 pyong), the Taedok Radiowave Observatory (building area, 1,000 pyong), and laboratories (building area, 440 pyong). Attending the signboard-hanging ceremony were several concerned personnel including Chon Hak-je, minister of the Ministry of Science and Technology, and Kyong Sang-hyon, director of the Electronic Communications Research Institute.

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CSO: 4107/129

S.KOREA/FOREIGN RELATIONS

REPORTAGE ON VISIT BY CAR PRESIDENT KOLINGBA

Chon Addresses Banquet

SK111134 Seoul YONHAP in English 1048 GMT 11 Jun 86

[Text] Seoul, June 11 (YONHAP)--South Korean President Chon Tu-hwan said Wednesday that he believes the first ever visit to Seoul by the president of the Central African Republic is of great historic momentum in bringing the existing friendly ties between the two countries into a new era.

Chon said that the visit by the African head of the state is also sure to play the role of stepping-stone to link the continents of Africa and Asia in promoting the goodwill and cooperation between the two countries.

Chon made the remarks at a dinner he hosted in honor of Andre Kolingba, visiting president of the Central African Republic, at Chongwadae, the presidential residence, here.

"Through strengthening bilateral cooperation in all aspects including political, economic and cultural fields, mutual prosperity of the two peoples is expected to be achieved and to be a model for south-south cooperation,"

• Chon said.

He also said it is the basic position of the Korean Government that the unification of the Korean peninsula should be resolved peacefully and independently through direct dialogue between South and North Korea.

Chon said that he hopes all regional conflicts will be solved as soon as possible by peaceful means through dialogue.

In response to Chon's address, Kolingba said he hopes the bilateral cooperation will be strengthened and diversified through expanding the trade and fostering small- and medium-sized industries, which constitute the foundation for economic development of the Central African Republic.

Kolingba went on to say that he is keenly interested in the Koreans' effort for the resumption of inter-Korean dialogue, extending his best wishes for the peaceful unification of the Korean peninsula.



Kolingba, who arrived here Tuesday for a 4-day official visit, visited North Korea twice--first in 1982 and again in 1983.

Earlier in the day, the African leader toured the 1988 Seoul Olympic sports complex in eastern Seoul and received an honorary doctorate in political science from Kyunghui University.

#### Joint Statement on Economic Cooperation

SK130620 Seoul YONHAP in English 0607 GMT 13 Jun 86

[Text] Seoul, June 13 (YONHAP)--South Korea and the Central African Republic Feiday issued a 15-point joint statement calling for the promotion of closer bilateral economic and technical cooperation through the exchange of experts and technicians.

In the joint statement, Korean President Chon Tu-hwan and Andre Kolingba, president of the Central African Republic, agreed that their countries should arrange for the participation of Korean businesses in economic development projects in the African country.

The two presidents also decided to promote joint industrial ventures between Seoul and Bangui in order to develop natural resources in the African nation, according to the statement.

In the statement, Chon, explaining South Korea's formula for "national reconciliation and democratic reunification" of the Korean peninsula, said that South Korea will continue its efforts to ease tensions and to maintain peace on the peninsula.

In reply, Kolingba, praising South Korea's efforts on behalf of peaceful reunification, reaffirmed his government's support for Seoul's reunification formula through direct dialogue between Seoul and Pyongyang.

Kolingba, accompanied by his wife and a 22-member official entourage, flew into Seoul Tuesday for a 4-day official visit. He is the first head of state from the Central African Republic ever to visit Korea.

Chon requested the support of the African country for South Korea's effort to bring about the simultaneous entry of the two Koreas into the United Nations as an interim measure, pending peaceful reunification.

Kolingba expressed support for South Korea's peaceful reunification formula as well as its plan for the simultaneous admission of Seoul and Pyongyang into the United Nations.

The two presidents expressed concern about the overall political situation in southeast Asia and Africa.

They also agreed that the preservation of world peace and security requires respect for sovereignty and territorial integrity in troubled regions,

adherence to the principles of non-intervention in the internal affairs of other countries and the nonuse of armed forces.

Chon and Kolingba also reaffirmed their governments' opposition to all forms of racism, including apartheid in South Africa, and colonialism.

They expressed their common hope that, in accordance with the international spirit of sports, the 1986 ASIAD and the 1988 Olympiad, both scheduled for Seoul, will be held successfully, with the participation of all nations, regardless of ideology or political system.

Kolingba invited Chon to make an official visit to the Central African Republic, and Chon accepted the invitation.

The schedule for Chon's visit to the African nation will be arranged through the proper diplomatic channels.

Kolingba is scheduled to hold a press conference in Seoul's Shilla hotel on Friday's afternoon, winding up his 4-day trip to South Korea.

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JPRS-KAR-86-026  
3 July 1986

S.KOREA/FOREIGN TRADE

INDUSTRY URGES CAUTIOUS APPROACH TO U.S. PATENT DEMANDS

SK140624 Seoul YONHAP in English 0323 GMT 14 Jun 86

[Text] Seoul, June 14 (YONHAP)--South Korean industrial circles Friday recommended that the government adopt a step-by-step approach in dealing with the U.S. demand for the early protection of foreign material patents in Korea.

In a written recommendation submitted to five government agencies, including the economic planning board, the Science-technology Ministry and the patent office, representatives of 16 major Korean economic organizations urged the government to limit the protection to chemical compound patent rights in the initial stage.

The protection should then be extended on a step-by-step basis to the pharmaceutical, farm chemical and food industries in order to minimize the possible impact on domestic industries, according to the recommendation.

In view of the weak structure and technological backwardness of Korean industries, the government should delay the protection of foreign material patent rights until the turn of the century, the industrial circles recommended.

The introduction of patent rights in the cited areas should be preceded by the strengthening of financial support for the technology research and development efforts of private firms and the establishment of organizations to evaluate and inspect the safety and toxicity of foreign patented chemical materials, they added.

Korean and U.S. officials have reportedly agreed to implement protective measures next year.

The recommendation also said that the U.S. demand that foreign material patent rights be protected retroactively is "unfeasible" and "too one-sided" from a legal point of view.

It also suggested that Korea delay its plan to join the Budapest treaty for the protection of original micro-organisms until after the domestic industry reaches sufficient technological maturity.

Among the 16 organizations that submitted the recommendation were the Korea Traders Association, the Korean Chamber of Commerce and Industry, the Korean Medical Association, the Korea Invention and Patent Association, and the Korea Pharmaceutical Industry Association.

S.KOREA/INTERNATIONAL COMMENTARY

DAILY EXPRESSES 'GRAVE CONCERN' OVER U.S. MOVES ON SALT II

SK150055 Seoul THE KOREA TIMES in English 15 Jun 86 p 4

[Editorial: "Fate of SALT II"]

[Text] U.S. President Ronald Reagan, who has discredited the SALT II pact as "fatally flawed" ever since he campaigned for the White House back in 1980, announced last week his readiness to scrap the strategic arms limitation treaty in the face of what he said were continual violations by the Soviet Union.

For the present, there seems to be some confusion about Washington's precise position on the disputed arms control treaty. While a White House spokesman elaborated on the president's remarks by bluntly saying, "SALT is dead and no longer exists," Secretary of State George Shultz tried over the weekend to obscure the verdict.

Whatever the real case may be, the Reagan administration has apparently decided to risk the burying of the 1979 treaty, to which the two superpowers have thus far adhered, though it had never been ratified by the U.S. Senate.

It may be presumed that Washington has opted(?) for such a hardline threat to pressure Moscow to discontinue its military buildup and come to agree on a new superpower arms reduction package. In fact, Mr Reagan has said that his [word indistinct] conclude a new treaty that, replacing the SALT II accord, would reduce weapons on both sides without giving either an advantage.

However(?), the stark reality is that no such new pact is presently in sight, despite numerous overtures presented by each side and on-and-off bilateral negotiations, including a summit meeting last November.

Among the proposals made by the Reagan administration were the so-called "zero option" missile solution, a 30 percent cut in nuclear missiles and [word indistinct], and a bid for START talks, breaking with the SALT's "limitation" concept to stress "reduction" of strategic arms.

Offers from Moscow, particularly following Mikhail Gorbachev's ascent to power 15 months ago, included a three-stage plan to destroy all nuclear weapons before the year 2000 and, more recently, a plan to make a 40 percent cut in strategic nuclear warheads.

Probably referring to the latest Soviet bid, the White House said last week that it [word indistinct] studying a new proposal from Moscow. But, in view of the poor records of U.S.-Soviet negotiations during the past several years, one can hardly be sure of a breakthrough forthcoming on arms control--and, at that, in time for a sort of deadline set by Washington at the latter part of this year.

If the Reagan administration adopted the threat to balk the treaty as a formidable leverage against Moscow in facilitating a new arms reduction treaty, diplomatic efforts to that end--and, for that matter, to improve overall East-West relations--should be stepped up.

We join the world community in expressing grave concern about a possible situation in which the SALT II, however flawed and fragile, is scrapped without any substitute or a corresponding ground rule to restrain the arms race--a situation that must be averted.

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N.KOREA/POLITICS AND GOVERNMENT

EDITORIAL STRESSES INHERITING REVOLUTIONARY TRADITION

SK092230 Pyongyang Domestic Service in Korean 2134 GMT 6 Jun 86

[NODONG SINMUN 7 Jun editorial: "Let Us Defend, Inherit, and Develop the Revolutionary Tradition of the Party"]

[Text] Today, the work to actively follow and brilliantly inherit the glorious revolutionary tradition of our party is being successfully carried out among our party members and working people. Under these circumstances, we are observing the 30th anniversary of the day on which our party initiated the first march to Mt Paektu. On this occasion, the party members, working people, and new generations are emotionally recalling the day of the first march to Mt Paektu, and are filled with great pride and self-confidence in having the leadership of the great party which initiated such a march.

In June 1956, with the lofty intent to brilliantly inherit the revolutionary tradition of the anti-Japanese revolutionary struggle, dear Comrade Kim Chong-il organized the march to Mt Paektu and gave guidance regarding this. Dear Comrade Kim Chong-il taught the members of the march to actively follow the revolutionary tradition of our party and become the true revolutionary warriors for the great leader. Thus, the history of the meaningful march to Mt Paektu began.

Our party's initiation of the march to visit the revolutionary battle sites was of great significance in arming the party members, working people, and new generations with the revolutionary tradition of the party and making them thoroughly embody it. The march to visit the revolutionary battle sites was the march of loyalty that provided an opportunity for a new turn in actively following the glorious revolutionary tradition of the great leader and in protecting and defending it forever. Through the march to visit the revolutionary battle sites and historic revolutionary relics, our people have come to realize deep in their hearts the greatness of the revolutionary tradition which the respected and beloved leader has established in the course of the long and arduous revolution, and the immortal revolutionary achievements which he has won along this path.

During the past 30 years, since the initiation of the march to Mt Paektu, the party members, working people, and new generations of the country have continued this glorious course of learning. In this glorious course, our

people have studied the glorious revolutionary tradition of our party, and have grasped it more deeply. At the same time, they have strengthened the will and determination to inherit it in accordance with the party center's intent.

The initiation of the march to Mt Paektu and the new epochal advance in the indoctrination in the revolutionary tradition through the march were a noble fruition of the wise leadership of our party, which attaches importance to the question of the revolutionary tradition in carrying out the chuche revolutionary cause. Regarding the question of inheriting the revolutionary tradition and the question of the indoctrination in the revolutionary tradition as a fundamental question for success in the inheritance of the revolutionary cause and in its consummation, our party has placed great emphasis on intensifying the indoctrination in the revolutionary tradition. In particular, with a deep insight into the great importance of the revolutionary battle sites and historic revolutionary relics in the indoctrination in the revolutionary tradition, the party has seen to it that the sites and [word indistinct] been properly preserved, and has ceaselessly intensified the indoctrination in the revolutionary tradition through these sites and [word indistinct].

Thanks to the wise leadership of our party, the revolutionary battle sites, historic revolutionary relics, revolutionary museums, and historic revolutionary memorials have been properly organized everywhere in the country to glorify the revolutionary achievements of the great leader through all eternity. They are the bases and schools for the indoctrination in the revolutionary tradition for the party members and working people. The Wangjaesan revolutionary relics along the Tuman River in the northern area of our country and the great open museum on Mt Paektu encompassing the historic area of Pochonbo and Lake Samjiyon are the excellent bases for the indoctrination in the revolutionary tradition. These bases are now displaying great vitality in preparing the people as true chuche-type communists.

Today, the party members and working people are facing an honorable task of purely inheriting the revolutionary tradition of our party and embodying it thoroughly by upholding the intent of the glorious party center.

In his classical work "Historical Experience in the Building of the WPK," which was published recently, the respected and beloved leader Comrade Kim Il-song elucidated the greatness and significance of the revolutionary tradition of our party, and put forth a task for the party members and working people to arm themselves with the revolutionary tradition of our party and glorify it.

As has been taught by the great leader Comrade Kim Il-song, the anti-Japanese revolutionary tradition is the historic root of our party and revolution. Our ability to overcome the severe storms of the revolution in the future and to consummate the chuche cause depend on protecting and defending this glorious revolutionary tradition and inheriting and developing it.

Our party, which upholds the ideology and leadership of the great leader Comrade Kim Il-song, has recently elucidated the ways and methods to intensify

the party's ideological indoctrination, and has stressed the intensification of the indoctrination in the revolutionary tradition in accordance with the demand of the developing reality.

All party organizations and members and working people should more vigorously push ahead with the work to more deeply study and grasp the glorious revolutionary tradition of our party and to inherit and develop it ceaselessly.

Comrade Kim Chong-il, member of the Political Bureau Presidium and secretary of the party Central Committee, has noted: We should continue the unyielding struggle along the path of the revolution which began from the holy peak of Mt Paektu. By so doing, we should brilliantly consummate the chuche revolutionary cause, the cause of socialism and communism.

The march to Mt Paektu is the march of loyalty to follow the great trait of the great leader Comrade Kim Il-song and his achievements and to hold him in high esteem, as did the fallen patriots of the anti-Japanese revolutionary struggle. Having the respected and beloved Comrade Kim Il-song as the great leader is our people's greatest honor and pride, and is the source of all our victories and happiness. Thanks to the great leader Comrade Kim Il-song, the destinies of our fatherland and nation have been brilliantly shaped and our people have become the proudest people who have the chuche revolutionary cause.

All party members and working people should cherish national pride and self-confidence in living and carrying out the revolution by holding the respected and beloved leader Comrade Kim Il-song in high esteem. By so doing, they should further refresh their revolutionary will to glorify the revolutionary achievements of the leader and his revolutionary tradition through all eternity and to hold the leader in high esteem generation after generation.

What is also important in continuing the march to Mt Paektu is to actively follow the loyalty to the leader [yongdoja] of the revolution, the leader [suryong], displayed by the fallen patriots of the anti-Japanese revolution. In those darkest days when our people were suffering under the oppression of the Japanese imperialists, the young Korean communists and anti-Japanese guerrillas were always loyal to the leader, with the revolutionary belief that only when they followed the leadership of the great leader Comrade Kim Il-song could they pioneer the destinies of the fatherland and nation and win the victory of the revolution. Regardless of time and place, the fallen patriots of the anti-Japanese revolution truly upheld and followed the great leader Comrade Kim Il-song, and defended the leader at the risk of their lives under all circumstances.

The noble spiritual world and examples of those young Korean communists and the anti-Japanese guerrillas who, with faith that had been built up in the struggle, and with the sense of revolutionary duty to the leader, upheld the great Comrade Kim Il-song as the leader of the revolution and as the center of the unity and cohesion of the revolutionary ranks and defended the headquarters of the revolution at the risk of their lives during those days of the bloody battles have now become the examples that our party members and working people should follow in their struggle and lives.



We should brilliantly inherit the noble examples of the fallen patriots of the anti-Japanese revolution--examples they set in loyally upholding the leader of the revolution--in upholding our party center today.

The glorious WPK is the force of guidance for our revolution. The future of our revolution and fatherland depends on the loyalty of the party members and working people to our party center and on their upholding of the party's leadership. As the fallen patriots of the anti-Japanese revolution upheld the great leader Comrade Kim Il-song, all party members and working people should uphold the respected and beloved leader and our party center and further strengthen the organizational and ideological foundation of the party. At the same time, the system of the leadership of the party Central Committee should be firmly established and special interest should be given to strengthening it.

What is also important in continuing the march to Mt Paektu is to actively follow the fighting spirit of the fallen patriots of the anti-Japanese revolution. Today, as the vigorous advance to attain the 10 long-range goals of socialist economic construction is being accelerated, what we need is the revolutionary spirit of Mt Paektu and its fighting spirit. The revolutionary spirit of Mt Paektu is the unyielding offensive spirit to overcome all difficulties and the indomitable fighting spirit to rise a hundred times if we fall a hundred times, in order to carry on the struggle.

The Paektu revolutionary spirit is the noble revolutionary spirit that will not abandon faith even if it faces the destiny of being broken and is the lofty revolutionary spirit of building socialism and communism in this land without fail.

If we fight with the Paektu revolutionary spirit, upholding the banner of the chuche idea, we can build communism before any other people. The party members and workers should carry out our party's lines, policies, and directives unconditionally and thoroughly by following the example of the spirit and traits of struggle of the anti-Japanese guerrillas, who struggled and fulfilled the revolutionary missions under any adverse situation, cherishing the firm faith that they had no right to die unless they accomplished the order of the respected comrade commander.

All the party members and workers should carry out the assigned revolutionary tasks responsibly and to end with the lofty awareness that they are the masters of the revolution by manufacturing what is not available and discovering what is in short supply. Thus, we should make the entire society overflow with the trait of producing more and better goods more rapidly with existing facilities, existing materials, and existing manpower.

The Paektu revolutionary spirit demands that we continuously advance toward a new victory, not boasting of the victory we have [word indistinct] and spirit. Thus, we should make the entire society overflow with the revolutionary spirit that filled the Paektu forest and with the fresh, revolutionary, and militant trait of life. We should make the flames of revolutionary upsurges continuously burn in the struggle to attain the new prospective targets.

Strengthening education in the revolutionary tradition through the drama of the revolutionary history is of great significance in the work of ideological education to succeed the Paektu march. The dramas of the revolutionary history are historic evidence embodying the revolutionary tradition and show the history of our party's glorious revolutionary struggle through vivid facts and concrete objects.

Party organizations at all levels should better maintain old revolutionary battlefields and historic sites where the brilliant and glorious revolutionary history concerning the respected leader and our party's achievements dwell. Taking such sites as a stronghold, they should organize and carry out education in the revolutionary tradition using manifold forms and methods. Properly organizing the work of exploring the old revolutionary battlefields and historic sites is important.

Such exploration will enable the party members, workers, and growing new generations to deeply understand our party's revolutionary tradition not as mere knowledge but as their practical experience.

Traversing the old revolutionary battlefields and historic sites where traces of the bloody anti-Japanese struggle still remain, the exploration unit members can deeply realize the lofty intention of the great leader, devoted to achieving the cause of national liberation, and the ardent loyalty of the anti-Japanese revolutionary patriots to the leader. Thus, they will come to resolve to devote themselves to achieving the chuche cause.

Today we are in the midst of carrying out the revolution and the path of advance is still long and rigorous. Only when we tenaciously defend and protect the anti-Japanese revolutionary tradition and brilliantly inherit it can we overcome any storm and trial and carry out the chuche revolutionary cause to the end generation after generation.

All the party members and workers should actively contribute to the cause of the chuche-orientation of the entire society by being brilliant successors to the Paektu march, holding aloft the party's leadership.

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N.KOREA/POLITICS AND GOVERNMENT

NODONG SINMUN ON REARING CHILDREN'S UNION MEMBERS

SK101120 Pyongyang Domestic Service in Korean 2132 GMT 5 Jun 86

[NODONG SINMUN 6 June editorial: "Let Us Bring Up the Children's Union Members To Be Reliable Inheritors of the Chuche Revolutionary Cause"]

[Text] Today, when the entire country is filled with a great joy and exultation at having the great leader Comrade Kim Il-song's work "Historical Experience in Building the WPK," we greet the 40th anniversary of the founding of the Korean Children's Union. On this significant day, all the people send warm congratulations to the members of the Children's Union who are studying as much as they wish, fluttering on the wings of hope in the bosom of our party, and are being brought up to be dependable inheritors of the chuche revolutionary cause.

The Korean Children's Union is the revolutionary mass organization of the children of our country that has inherited the red banners of the Saenal Children's League and the anti-Japanese Children's Corps. With the formation of the Children's Union, the children of our country can have a true revolutionary organization and be brought up in an excellent manner to be the inheritors of the chuche cause.

Under the wise leadership and parental love of the party and the leader, the Korean Children's Union has trodden the road of proud struggle and shining victory for the past 40 years. At every time and stage of the development of the revolution our party clearly elucidated the road for the Korean Children's Union to follow, and has given special love and unsparing consideration to the members of the Children's Union for the future of the country.

During the time of peaceful construction, the stern period of the fatherland liberation war, and the days of socialist construction, our children's union members waged a daring struggle, following the members of the WPK and the LSWYK, devoting all the strength and talents they had, as young revolutionaries and little constructors. In the course of this rewarding struggle, the Korean Children's Union has been consolidated more firmly as a glorious revolutionary organization of young honor guards endlessly loyal to the party and the leader, and through this, a new persistent generation that is indoctrinated, trained, and tempered organizationally and ideologically has been brought up.

Today, the ideological and spiritual condition of the Children's Union members of our country is very good. All the Children's Union members are firmly armed with our party's revolutionary idea, the chuche idea, and are filled with the burning resolve to brilliantly inherit the chuche revolutionary cause. Our new generation is enthusiastically learning to prepare itself to be the revolutionary inheritor who will uphold the party's cause with loyalty no matter what hardships and trials it may face, tempering its body and mind in the practical struggle of contributing to carrying out the party's policy.

That all the Children's Union members are being brought up dependably as young communist revolutionaries and as revolutionary inheritors who will brilliantly complete the chuche cause is the greatest joy and pride of our party and the people. Our people are seeing the bright future of the Korean revolution and are firmly convinced of the brilliant future of the fatherland from the firmly consolidated organization of the Children's Union and from the reliable features and beautiful traits of the vigorous and bright Children's Union members.

Our revolution, which began on the spiritual peaks of Mt Paektu, is vigorously advancing today at a higher stage of modeling the entire society on the chuche idea. However, the road of revolution we must follow is still long and rugged, and the struggle is continuing. We should reunify the divided land of the country at an early date and build a socialist and communist paradise on the land of the country.

The organizations and members of the Children's Union have the duty of improving and developing the work of the Children's Union in accordance with the requirements of the revolutionary development and brilliantly inheriting the chuche revolutionary cause.

The great leader Comrade Kim Il-song has taught: Today, the basic duty of the Korean Children's Union is to firmly prepare the Children's Union members to be the inheritors of the chuche revolutionary cause.

The Children's Union members are the heroes of the future of our country and the inheritors of our revolutionary cause. The future of our revolution and the country depends on how we bring up the Children's Union members. The dear Comrade Kim Chong-il has put forward a policy of effecting an epochal upturn in the work of the youths and children in accordance with the development of the reality in which our revolution has advanced onto a new higher stage, and he is wisely leading the struggle to carry it out.

Upholding our party's policy of further improving and intensifying the work of the Children's Union and firmly preparing the new generation to be the inheritors of the chuche revolutionary cause is not only the basic duty of the Children's Union organizations but the sacred duty of all our functionaries, party members, and the entire people of the country.

In order to bring up the Children's Union members to be a chuche-type communist revolutionaries, it is important to effectively carry out the work of ideological indoctrination among them, with indoctrination in the chuche idea and loyalty forming the basis, meeting the specific requirements.

Because childhood is a very important period in forming the revolutionary world outlook, it is very significant to intensify the work of ideological indoctrination among them. The chuche idea is the source of nourishment of the Children's Union members, enabling them to be brought up to be chuche-type communist revolutionaries, and is a compass for them to use in following the revolutionary road without deviation. We should further intensify the indoctrination in the chuche idea among the new generation to ensure that all the Children's Union members are firmly armed with the great chuche idea and that they think and act in accordance with our party's will at all places and at all times.

Intensifying the indoctrination on the party among the Children's Union members is of important significance in ensuring that they are brought up to be true communist revolutionaries endlessly loyal to the party and that our party's revolutionary cause is completed generation to generation. In order for all Children's Union members to enthusiastically love and follow our party to the end with flawlessly clear and pure loyalty, we should firmly plan, supervise, deepen, and develop the work of learning from the glorious childhood days of the dear Comrade Kim Chong-il. By so doing, we should ensure that all of the new generation cherish our party's greatness, achievements, and beneficial virtue deep in their hearts and become sunflowers of loyalty having loyalty to the party as a revolutionary faith and a noble fidelity.

Today, when the new generation that has not experienced the painful and sorrowful days of losing the country is emerging as the master of the rapidly developing fatherland, with the revolutionary generations changing, it is important to intensify the indoctrination on the country among members of this generation. We should ensure that all Children's Union members highly value and warmly love the socialist fatherland that the great leader Marshal Kim Il-song [as heard] founded and built and that our party is leading, and struggle for its growth and prosperity, devoting all their bodies and minds. In order to do this, we should ensure that they have good knowledge about the fatherland.

Our socialist fatherland is the true fatherland that guarantees the eternal happiness of all future generations. We should enable all Children's Union members to have sufficient knowledge of our country's shining history, culture, and beautiful rivers and mountains so that they can clearly know and warmly love our fatherland and actively contribute to endlessly making it shine. At the same time, we should carry out the indoctrination on the fatherland in close combination with the indoctrination on the revolutionary tradition so that our new generation that has not experienced the revolutionary trials can endlessly love the fatherland as the anti-Japanese guerrillas did, devote everything it has to the prosperity and development of the fatherland, and brilliantly inherit and complete the chuche revolutionary cause.

The noble ideological and spiritual traits and practical examples of the unheralded meritorious persons are making a great impression. That we make all Children's Union members actively learn from the examples of the unheralded meritorious persons is of great significance in bringing them up to be patriots who can devote all their lives to the fatherland.

Under the conditions in which the generations are changing, we should continue to intensify the revolutionary indoctrination and communist indoctrination for the children. Our children are a new generation who have been growing up enjoying happiness only, not having experienced exploitation and oppression. If the educational institutions, the [word indistinct] Children's Union organizations deepen the revolutionary and class indoctrination among the children, they will not forget the painful [word indistinct] people have experienced, and will wage a resolute struggle for the ultimate victory of the revolution.

By making the children be clearly aware of the corruption of the capitalist system and the exploitative nature of the landlords and capitalists, we should ensure that [they] have extreme hatred for the exploitative system and the exploitative class. In particular, we should make the children clearly know the U.S. imperialists' aggressive nature and the South Korean puppet clique's treacherous, nation-selling, and antipopular nature and make them prepare themselves to wage a resolute struggle against them.

Intensifying the education on knowledge, virtue, and physical development among the Children's Union members is an important requirement put forward by our party in order to bring them up to be chuche-type communist revolutionaries. The revolutionary idea, communist morality and traits, deep knowledge, and healthy physical strength are the quality and traits that the new chuche-type generation must have.

Studying well is the foremost duty of the Children's Union members and the basic revolutionary task entrusted to them. The Children's Union members should study hard, holding aloft the slogan of study first. They should voluntarily follow the rules of study, prepare for their lessons well, and study hard without wasting even a little time, so that they can all become the most excellent honor students.

The beautiful communist morality is an important trait that the chuche-type communist revolutionaries must have. We should intensify the indoctrination in communist morality among the Children's Union members to ensure that they adhere to the socialist way of life and the collective rule of life in an exemplary manner, respect their parents and superiors, love their comrades and brothers and sisters, and always have good manners, wearing clean clothing and red neckties. We should also ensure that they like to work from childhood, sincerely participate in school work and other collective labor, highly value the properties of the country and society, and live meticulous lives.

Healthy physical strength is the basis for an active contribution to revolution and construction. The Children's Union members should always engage in running and exercises to increase their height and participate in many kinds of sports, such as soccer, basketball, volleyball, pingpong, swimming, and mountain climbing, thereby tempering their bodies to be strong. They should have at least one sports skill.

Vigorously carrying out social and political activities and the movement to do good deeds is one of the good methods to solidify the knowledge learned in

school, to make it useful practical knowledge, and to prepare them to be able social and political activists. The Children's Union organizations should ensure that all Children's Union members actively participate in the scientific and technological propaganda and sanitation propaganda, as well as many other social and political activities, making it a basic activity to explain and publicize the teachings of the respected and beloved leader Marshall Kim Il-song and the party's policy, their embodiment, and actively wage a campaign to do good deeds, such as the [word indistinct] activities to love and protect the homeland, tree planting, and rabbit raising.

At the same time, we should organize various kinds of activities such as meetings to make presentations on the books they have read, film appreciation meetings, and activities of the children's art propaganda unit so that the Children's Union members can recite poems, sing songs, engage in sports, write articles, make good speeches, and play at least one musical instrument, in accordance with their hobbies and talents. By so doing, we should ensure that everything the Children's Union members learn and carry out is filled with a bright and vital atmosphere.

The organizational life of the Children's Union is the beginning of the people's political organizational life. One should live a good life in the Children's Union in order to foster good working and living habits on the basis of an organization, to have a brilliant political life, and to be brought up to be a chuche-type communist revolutionary. The Children's Union members should cherish the honor of the Korean Children's Union deep in their hearts, highly value the organization, always study and live in accordance with the organization, and carry out the assignment given by the organization without fail. We should also ensure that they abide by the Children's Union regulations well and voluntarily and sincerely participate in all the work organized by the Children's Union.

In order to bring about a new upturn in the work of bringing up the Children's Union members to be chuche-type communist revolutionaries, we should thoroughly carry out our party's will to improve the guiding method of this work. The party organizations should lead the Children's Union organizations so that they can carry out all work in a new and vital manner without attaching excessive importance to formalities and set a framework and work with various forms and methods and with distinctive characteristics in a manner suitable to the characteristics of the new generation, which is sensitive to what is new, is full of youthful vigor, and has a lofty ambition and ideal.

Bringing up the Children's Union members to be chuche-type communist revolutionaries is a glorious work to make the honor of the fatherland shine in the world and to complete our party's cause to the end. All party organizations and children's organizations should firmly adhere to and add shine to the immortal achievements attained by our party in deepening and developing the work for children and firmly prepare the new generation to be the militant (?honor guard) of the WPK in order to brilliantly realize the cause of modeling the entire society on the chuche idea.

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CSO: 4110/064

N. KOREA/ECONOMY

EDITORIAL ON ELECTRICITY PRODUCTION, CONSERVATION

Pyongyang NODONG SINMUN in Korean 24 Mar 86 p 1

[Editorial: "Let Us Produce More and Conserve Electric Power"]

[Text] One of the important questions we face today in thoroughly implementing this year's New Year's address of the great leader, Comrade Kim Il-song, and the decision of the 11th Plenum of the 6th Party Central Committee is the vigorous waging of the struggle to produce and conserve electric power.

The great leader, Comrade Kim Il-song, taught as follows: "To meet the rapidly increasing demand for power, it is necessary to establish a whole series of new power bases while at the same time conserving electricity to the utmost."

Electric power is the basic power of production and the technological foundation of modern production. To be able to normalize production and meet the high demand for electric power during the period of the new prospective plan, it is necessary to develop the electric power industry rapidly and amply satisfy the demands of the national economy.

Technological development of all sectors of the national economy such as industry, agriculture, railroad transportation, etc. presupposes incorporation of electricity and it is impossible to conceive of technological development without the introduction of electricity. Consequently, our party has always devoted its consummate interest to development of the electric power industry and required that electric power production be endlessly increased in harmony with the development of socialist economic construction at a new high stage.

At present, what factories, enterprises, and key construction sites in all sectors of the national economy such as the extractive, metallurgical, and chemical industries and railroad transportation need more of is electric power. As the spring farming battle progresses, the demand for electric power rises sharply in the countryside as well. The continuously rising demand for electric power must be fully met so as to enable the struggle to attain the steel summit and accomplish the technical revolution to be more energetically carried on, chemical fertilizer production further expedited, and farming first line thoroughly implemented. Consequently, producing and conserving more electricity are tantamount to expediting production and construction, strengthening the economic prowess of the country, and rapidly heightening the living standard.



There are large reserves of electric power production and conservation. Even by innovating technology and remodeling such things as hydroturbine blades in all power-generating stations, more electric power could be obtained and by mapping out the organization of production and living conditions, factories, enterprises, organizations, and households can conserve a lot of electric power.

Functionaries and workers in all sectors of the national economy, including the electric power industry, must profoundly understand the significance and importance of electric power production and conservation and substantially pursue this work on a mass scale.

We must, above all, map out organizational work and operate already existing power stations at full capacity.

By thoroughly implementing the party line on properly combining the construction of hydroelectric and thermal power stations with large, medium-size, and small power stations, a firm power base has been established in our country and the potential production force is very large. Under such conditions, operating already existing power generation equipment at full capacity would enable electric power production to increase notably. This matter depends, however, on how economic organizational work is formulated. If the functionaries in the appropriate sectors would plan for equipment management, coal provision, and technological revision, the power stations now in existence would be able to produce much more electric power. The functionaries in the electric power industry must establish thoroughly planned preventive maintenance systems for generating equipment and enable the producing masses to perform equipment management as a mass campaign. Furthermore, they must innovate technology, technically renovate old generating equipment, or replace it with new generating equipment in accordance with scientific and technological development so as to improve continuously the technological level of facilities in the power bases.

Formulating coal supply work is one of the most important questions encountered at the present time for operating thermal power stations at full capacity. The electric power industrial committee must map out detailed organizational work to provide a sufficient quantity of coal to the thermal power stations through close liaison with the extractive industrial committee and the railroad transportation sector. In connection with this, the coal mines which are to provide coal to the thermal power stations must vigorously wage the struggle to mine much more coal and the railroad transportation sector must actively introduce concentrated transportation methodology and immediately deliver the coal to the thermal power stations.

It is important to expedite the construction of hydroelectric power stations to create more electricity-generating capacity.

Hydroelectric power stations construction is one of the key elements in capital construction this year. Hydroelectric power station construction must be positively expedited so as to enable the ever increasing demand for electric power to be satisfied and attain the electric power summit which is forecast in the 10 long-range goals of socialist economic construction. The construction sector must exert a great effort in building the Taechon and Wiwon power

stations to hasten the date of completion while preparing to build new power stations. Sectors, factories, and enterprises which are to provide cooperative production goods, equipment, and materials for power station construction must produce and provide these on a priority basis.

The vigorous waging of the struggle to conserve electricity now underway is an important way to assure that the demand for electric power, which is rising sharply following production upswings in all sectors of the national economy, is fully met.

If factories and enterprises which consume a lot of electricity and even households and public service sectors carry out the struggle to conserve electricity as a mass campaign, it would be possible to conserve much electric power and set up conditions for achieving more production to that degree.

All sectors and all units of the national economy must continue to get a strong grasp on and wage vigorously the struggle to conserve electricity.

Today, tremendous reserves for conserving electricity can be found in lowering the level of electric power consumption in all sectors of the national economy.

All factories and enterprises must actively engage in the technical innovation movement to lower the level of electric power consumption per unit product and properly perform the inspection, maintenance, control, and management of machinery and thereby drastically decrease electric power losses due to machine friction. Likewise, they must drastically conserve electric power by converting electric furnaces and boilers to coal and employing effective heat retention methodology, heat reflective paints, etc.

Organizations, enterprises, cooperative farms, and households must actively seek out electricity conservation sources and wage the struggle to conserve even 1 kwh of electric power on a mass scale.

The proper performance of cross-production organization is the consistent requirement of our party for effectively using electricity.

The great leader, Comrade Kim Il-song, has spoken about properly performing cross-production organization on several occasions recently and taken appropriate steps for this.

In the appropriate sectors, electric power consumption limits and times must be accurately determined for each sector, district, factory, and enterprise; cross-production organization must be responsibly formulated in accordance with this; and guidance and control must be performed to prevent excessive use of electric power.

In particular, consolidated enterprises, factories, and enterprises must responsibly organize cross-production between their subordinate factories, workshops, and work teams to enable production to be increased even while effectively using electric power. To this effect, factories and enterprises must properly plan to prepare raw and processed materials and perform equipment inspection and maintenance work during the times they are not using electric power.

To strive steadfastly to conserve drastically and use electricity effectively is the attitude of the masters of the revolution and an expression of love of country. One must become a person who sparingly uses electric power which was produced by using precious coal and water to be able to do production well also. Party organizations at all levels must continue to explain and instill the instructions of the great leader, Comrade Kim Il-song, on vigorously waging the struggle to conserve electricity in their own sectors and units in conjunction with their own circumstances. Accordingly, all party members and workers must be able to adopt the strong position of masters of the country and masters of production, conserving and using sparingly even 1 kilowatt-hour of electric power.

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N. KOREA/ECONOMY

COGENERATION AT NAMPO SMELTERY REPORTED

Pyongyang NODONG SINMUN in Korean 3 Apr 86 p 1

[Article: "New High-pressure Waste Heat Boiler; At the Nampo Smeltery Complex"]

[Text] Upholding the great leader's instructions on vigorously waging the technological revolution and the will of the party, the three revolutions team members who have been dispatched to the Nampo Smeltery Complex and the workers and technicians there have recently made a magnificent high-pressure boiler which uses waste heat.

The great leader, Comrade Kim Il-song, checked over personally the considerable effectiveness of this high-pressure waste heat boiler which was made here at the complex and expressed his tremendous satisfaction with it.

The great leader, Comrade Kim Il-song, taught as follows: "All party organizations should adopt the technological revolution as the party's important strategic line and vigorously organize and mobilize the scientists, technicians, and broad mass of workers to accomplish the technological revolution."

The working class and members of the three revolutions team at the complex here have wholeheartedly displayed all their wisdom and energy to repay loyally with their technical achievements the tremendous generosity of the beloved Comrade Kim Chong-il, who arranged to supply on a priority basis those materials and cooperative goods which were urgently needed to manufacture the high-pressure boiler which utilizes waste heat.

They thereby completely solved the complex technical problems through their own efforts and technology and ultimately succeeded in brilliantly building a modern high-pressure waste heat boiler.

The high-pressure waste heat boiler which they made was able to use the waste heat emitted from the roasting furnaces which had been discarded as useless up until now. The operating machinery and processing apparatus installed on the boiler are all automated and remote-controlled.

As a result of making the high-pressure waste heat boiler and operating it for 3 months, it became evident not only that its efficiency was very good but that it had not a few other good points as well.

Most of all, the high-pressure waste heat boiler produces huge quantities of high-pressure steam equivalent to one-tenth of the steam produced in the central boiler of the complex with 1 year's consumption of coal.

Being able to use effectively the previously useless waste heat from the roasting furnaces and freeing up a great deal of coal over a year are indeed tremendous innovations.

Moreover, after utilizing the high-pressure steam, the smelting recovery rate rose 8 percent over the past and production took a leap of 1.3 times. This is not all, however. By operating the waste heat boiler, they were also able to conserve 700,000 kwh of electric power per year in the electrolysis process.

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N.KOREA/ECONOMY

DAILY URGES NEW COAL MINE DEVELOPMENT

SK110340 Pyongyang Domestic Service in Korean 2143 GMT 3 Jun 86

[NODONG SINMUN 4 June Editorial: "Let Us Increase the Speed of the Development of New Coal Mines"]

[Text] Developing the extractive industry rapidly and making it go far ahead of the processing industry are a basic principle of economic construction. In order to make the extractive industry, the coal industry in particular, go far ahead of the processing industry, many new coal mines should be developed.

The great leader Comrade Kim Il-song has taught: Many large new coal mines should be developed in the areas where the prospects of production are great and the conditions of development are good. At the same time, small- and medium-size collieries should be actively developed.

Coal is an important material and fuel for our country's chuche industry. As many sectors of the people's economy vigorously struggle to stabilize production at a high level, the demand for coal is growing rapidly. In particular, through the continued active capital construction, the number of new plants and enterprises is increasing. Thus, the demand for coal will ceaselessly grow.

To properly meet this growing demand of the people's economy for coal, coal production in the existing coal mines should be drastically increased and new coal mines should be developed.

Today, we are struggling to implement the great program of the Sixth Party Congress. The capital construction projects to attain the goals of power, steel, cement, chemical fertilizer, and textile production set forth by the party are being carried out everywhere and many light industrial plants are also being built. When all these plants have been built, the demand for coal will further grow.

Considering the present coal consumption of the people's economy and considering the future demand for coal, developing new coal mines to increase coal production rapidly is presently an urgent question. For this reason, our party has put forward as an important political task to develop new coal mines, and is demanding that many small and large coal mines be developed everywhere.

Our country has very rich coal resources. The Anju, Sunchon, and Tokchon districts, the Kangdong District, and the northern area have great deposits of good quality coal. More coal mines should be developed in these districts and coal production should be increased rapidly. Only then can the existing production capacities of many sectors of the people's economy be fully utilized and production be increased, thus further strengthening the economic foundation of the country and drastically improving the people's standard of living.

In particular, increasing the speed of the development of new coal mines is related to the special character of coal production. At present, at many coal mines, coal is produced in deep pits. Under these circumstances, more new coal mines should be developed. Only then can coal production ceaselessly increase. Increasing the speed of the development of new coal mines and putting them into operation ahead of schedule are an honorable task to establish a reliable foundation for the overall development of the people's economy. As the demand for coal grows with each passing day, the concerned sectors and coal mines should increase the speed of the development of coal mines and put them into operation ahead of the schedule.

To increase the speed of the development of coal mines, investment in the development of coal mines should be increased. Developing new coal mines is more difficult than building plants on the ground. For the development of new coal mines, tremendous amounts of materials, facilities, and manpower and a long period of construction are necessary. However, the development of new coal mines is the task which should be accomplished for the prosperity and growth of the fatherland as well as for the rapid development of the people's economy.

The existing coal mines are producing much coal. However, if great interest is not directed to the development of new coal mines and if investment is not increased, coal production cannot be increased ceaselessly. The concerned commissions and ministries of the State Administration Council and concerned complexes should plan the development of coal mines and should continue to increase investment for the distant future.

By specifically calculating the future demand of the development of the people's economy, its prevailing situation, and economic effects, the responsible functionaries of the concerned sectors should correctly decide on the direction of investment and the area of the development of new coal mines and should concentrate facilities, materials, and manpower. By so doing, they should increase the speed of the development of new coal mines.

In increasing the speed of the development of new coal mines, the functionaries and construction workers of the units responsible for the development of new coal mines are facing heavy tasks. The development of coal mines is a primary revolutionary mission of the functionaries and construction workers of this sector. Support from other sectors and units is important and an increase in state investment is also important. However, what is most important is to adopt an attitude worthy of masters and responsibly accomplish the given tasks by those who are engaged in the development of coal mines. The experience of those functionaries and combatants of the Anju construction

brigade who built the youth vertical shaft shows that all difficulties can be overcome and the speed of the eighties can be created when functionaries and construction workers unite as one and accomplish the given tasks responsible with an attitude worthy of masters.

The functionaries of the concerned coal mine complexes and construction offices should give firm priority to geological survey work and planning work for the development of new coal mines. [Word indistinct], they should make meticulous preparations for the development of coal mines. In addition, correct combat goals should be established for each stage of development and annual, quarterly, an [word indistinct] evaluations of progress should be made scientifically and realistically. On the basis of this, adequate assignments should be given to combat units.

Functionaries should adhere to the supply of materials and the management of facilities, make correct evaluations of progress by individual combat units, and properly conduct the redistribution work.

Those who are directly in charge of the development of new coal mines are tunneling workers, pit builders, and other pit construction workers. By displaying the revolutionary spirit of Mt Paektu and the Chollima spirit, all coal mine development workers should properly accomplish their given tasks through their own efforts and technology. The coal mine development workers should pool their strength and skills, introduce advanced work methods, and vigorously carry out the high-speed tunneling movement. By so doing, they should ceaselessly create new standards and records in tunneling work. In the honorable struggle to conquer nature, they should display all their wisdom and courage.

In expediting the operations of the new coal mines, the correct combination of pit construction and ground construction is important. Large underground construction can be smoothly carried out only when ground construction properly progresses. Therefore, in order to guarantee production with the completion of underground construction, coal mines and construction offices should vigorously push ahead with the construction of transport and loading facilities, and cultural and service facilities on the ground in synchronization with the underground construction.

Bringing about innovations in the related sectors and units and swiftly supplying facilities and materials are very important in increasing the speed of the development of new coal mines. Proper production and supply of materials and facilities needed for the development of coal mines are an important guarantee to increase the speed of the development of new coal mines and to put them into operation ahead of the schedule, as demanded by the party.

The plants and enterprises responsible for the production of facilities needed for the development of coal mines should increase the invention and production of high-performance tunneling facilities, transport facilities, and water-pumping facilities which can play great roles in pit construction.



In particular, the building material and metallurgical industries should increase the production of cement and steel materials for timely supply. In addition, the related sectors and units should constantly intensify service and support work for construction workers.

All coal mine construction workers should realize deep in their hearts and benevolence of the party which has assigned them to the most difficult guardposts to remake nature and which has extended great love and trust to them. By so doing, they should wage the speed battle in the development of new coal mines so that coal production can be increased at an early date.

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N. KOREA/ECONOMY

PRODUCTION OF ORDERED EQUIPMENT ACCELERATES

SK182302 Pyongyang KCNA in English 1508 GMT 18 Jun 86

[Text] Pyongyang, 18 Jun (KCNA)--The output of ordered equipment has risen 30 percent in June above the comparable period last year under the Machine Industry Guidance Bureau of the Metal and Machine Industry Commission.

Machine plants and enterprises in all parts of the country give priority to the production of ordered equipment for the construction of the Sunchon vinalon complex and the Taechon power station, the expansion of the Tanchon magnesia factory and the second-stage expansion project of the Kim Chaek iron and steel complex.

The Yongsong machine complex has begun the production of large-size compounding towers for the Sunchon vinalon complex. The complex has laid in 3 months a base for the continuous building of large-size compounding towers.

Over 80 industrial establishments across the country have undertaken the production of ordered equipment for the vinalon complex.

The Tae'an heavy machine complex finished in a short period the manufacture of various equipment including installations of revolving furnaces [transmission garbled] speed reducers to reinforce the iron production base.

The complex is now effecting innovations every day in the production of large hydraulic turbines, generators and transformers for the Taechon power station.

The Akwon machine complex, the October 5 general automation work, the May 10 factory and others supply in time equipment and goods of coordinated production including high-speed tunnelers, large-size compressors and electric and automation apparatuses.

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CSO: 4100/172

N. KOREA/ECONOMY

HO CHONG-SUK ATTENDS 'LOYAL SOCIALIST EMULATION' MEETING

SK190445 Pyongyang KCNA in English 0430 GMT 19 Jun 86

[Text] Pyongyang, 19 Jun (KCNA)--The employees of the hydraulic power station construction complex No 1 who are vigorously stepping up the construction of the Taechon power station, a new power base held a meeting on 17 June and appealed to the working class throughout the country to launch a "loyal socialist emulation."

At the meeting the reporter and speakers said that the builders of the Taechon power station and their helpers have performed new feats at all construction sites to most brilliantly celebrate in the history of our people and our country the most auspicious holidays of the nation in 1987.

They stressed that the great leader Comrade Kim Il-song attached importance to the construction of the Taechon power station which is now being built by a new method of developing hydraulic resources and assigned this task to the hydraulic power station construction complex No 1 and repeatedly gave programmatic instructions on bringing earlier the commissioning of the station.

Dear Comrade Kim Chong-il took steps to supply equipment and materials preferentially and make the whole party, the whole country and the entire people strengthen their help in the construction so that the construction of the Taechon power station could be carried on in a big way, they noted.

Determined to make a report of loyalty, a report of glory to the great leader and our party by completing the construction of power stations Nos 1 and 2 of the Taechon power station, greeting the most auspicious holidays of the nation next year, we appeal to the working class throughout the country to launch a "loyal socialist emulation," they said.

Ho Chong-suk, secretary of the Central Committee of the Workers' Party of Korea, and officials concerned were present at the meeting.

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CSO: 4100/172

N. KOREA/SCIENCE AND TECHNOLOGY

NODONG SINMUN ON TRAINING OF TECHNICIANS

SK180800 Pyongyang Domestic Service in Korean 2133 GMT 13 Jun 86

[NODONG SINMUN 14 June editorial: "Let Us Continually Concentrate Greater Efforts on the Work of Training Technical Personnel and on Developing Science and Technology"]

[Text] Under the wise leadership of the party and leader, the struggle to improve and strengthen the work of training technical personnel at a new higher stage and to rapidly develop science and technology is being carried out vigorously in our country.

Further deepening and developing the work of training technical personnel and science and technology according to the practical demands is an important task for socialist and communist construction as well as for national prosperity. The party of the working class in power should always pay deep attention to and concentrate greater efforts on this work.

Twenty-five years ago the respected and beloved leader Comrade Kim Il-song arranged the fifth plenary meeting of the Cabinet and at this meeting made an important conclusion "On Improving and Strengthening the Work of Training Technical Personnel and on Rapidly Developing Science and Technology." This meeting has been recorded as a historic meeting serving as a new milestone in developing the work of training technical personnel and the nation's science and technology.

The respected and beloved leader Comrade Kim Il-song's conclusion at this meeting serves as an important theoretical and practical weapon to accelerate socialist and communist construction and to realize national prosperity. In this work, the great leader Comrade Kim Il-song has put forward new theoretical and concrete ways to further deepen and develop the work of training technical personnel and the nation's science and technology based on what has already been achieved in these fields.

The respected and beloved leader Comrade Kim Il-song has taught: It is important to thoroughly establish chuche in the work of scientific study and educational work.

In his work, the great leader Comrade Kim Il-song, who has remained deeply concerned about educational work and the work of scientific study, has clearly elucidated tasks arising in increasing the number of factory colleges where people learn while working in accordance with the nation's practical demands, in raising the quality of education at these factory colleges and full-time regular colleges, and in rapidly developing science and technology, as well as ways to realize such tasks.

This is a straightforward shortcut that enables our party to improve and strengthen the work of training technical personnel and to rapidly develop the nation's science and technology on its own as well as a guiding principle that must be adhered to continuously in accelerating socialist and communist construction and in realizing the work of turning society into one filled with intellectuals.

The justness and indomitable vitality of the outstanding ideas and ways stated in the work have been clearly proven by the tireless struggle of our party and people waged for their realization over the past 25 years.

Our party has increased the number of factory colleges and other colleges of various types where people learn while working and has concentrated efforts on making them prove their own worth. As a result, the countless graduates of factory colleges are genuinely contributing to solving difficult and arduous problems arising in accelerating technical revolution and in socialist economic construction.

In our country today a high educational system of learning while working has been established in good order, and countless working people are receiving higher education without being left behind in their production activity and their main work.

Our scientists and technicians, rising to implement the respected and beloved leader Comrade Kim Il-song's teachings, have energetically conducted scientific research work aimed at accelerating socialist economic construction through the reasonable use of the nation's natural resources. They have succeeded in introducing into various domains of the national economy the industrialization of the gassification of anthracite as desired by the party. Not only have they succeeded in solving the technological problem concerning the production of carbide based on a new method and weaving various kinds of cloth from vinalon fiber, but they also have achieved unique successes in developing the nation's science and technology by manufacturing large-size machine tools such as large-size oxygen separator and 10,000-ton press. All such successes are a noble fruition of a vigorous advancement, under the tested leadership of our party, on a victorious path directed by the *cuuche* idea.

Attempting to lift the work of training technical personnel and the nation's science and technology up a higher notch is our party's firm will. Our party demands that the work of training technical personnel be improved and strengthened, that scientific and technological problems arising in socialist construction that urgently await solutions be solved smoothly

by way of effecting new upsurges in the development of science and technology, and that the struggle to rapidly develop the nation's science and technology be staged vigorously.

Today, we face the heavy but honorable task of implementing the programmatic teachings made by the great leader Comrade Kim Il-song at the fifth plenary meeting of the Cabinet and the decisions made at the 11th Plenary Meeting of the Sixth Party Central Committee.

What is now needed everywhere are able technical personnel and modern science and technology. All functionaries, educators, scientists, technicians, and working people should continuously study the great leader Comrade Kim Il-song's historic work "On Improving and Strengthening the Work of Training Technical Personnel and on Rapidly Developing Science and Technology" so as to have a deep understanding about the profound ideas, theories, and ways contained in the work and to thoroughly embody them in their work and life.

Increasing the number of colleges where people learn while working, strengthening them, and raising the qualitative degree of college education is an important condition for developing the nation's science and technology and for realizing the work of turning society into one filled with intellectuals.

We should build a great number of such colleges where people learn while working as factory colleges, farm colleges, and fishery village colleges in the cities, rural communities, and fishing villages and guarantee them with a greater number of modern instruments for experiments, including computers. At the same time, party organizations at all levels and functionaries should plan and coordinate organizational work aimed at running better the higher educational system while working in accordance with the practical demands of their own units.

They should arrange good lecture rooms on the production sites, make the working people attend on-the-spot lectures regularly, without being absent from such lecture, and amply guarantee them with all conditions for their learning.

The goal of having students learn in colleges is to develop the nation's science and technology by training them as able scientists and technicians. Colleges should strengthen the work of political and ideological indoctrination for students and raise the quality of education.

Teachers should make the substance of all curriculum courses at colleges party policy-oriented from start to finish and should make positive efforts on teaching the students living knowledge necessary to solve the scientific and technological problems arising in accelerating the work of making the national economy chuche-oriented, modern, and science-oriented and in achieving the 10 major prospective targets of socialist economic construction.

Party organizations should systematically rear more talented people so firmly prepared and so equipped with high scientific knowledge so as to devote themselves to working for the party and revolution, for the fatherland and people, by firmly organizing the ranks of teachers and by raising the quality of education.

One of the important problems facing us today is to develop science and technology onto a high stage. Without rapidly developing science and technology, it is impossible to make socialist construction advance even a step forward, or to fulfill any given targets of economic construction, or make our people's lives happier lives.

The entire party, the whole nation, and all the people should rise up vigorously to effect new upsurges in the implementation of the technological revolution, upholding our party's leadership so as to accelerate socialist economic construction and to raise the degree of the nation's science and technology onto a higher stage at an early date.

The fortress of science and technology to which our party has given priority at present is very high. However, we have at our disposal strength and potential to occupy it. In our country today there is a great unit of 1.25 million scientists, technicians, and specialists trained in the bosom of the party and leader. It has also built mighty scientific research bases with conditions for scientific research work sufficiently guaranteed. As long as such firm foundations exist and as long as there is a wise leadership of the party and leader, we can ably occupy any kind of scientific fortress.

All the scientists, technicians, and working people should perform proud exploits by vigorously joining in today's march launched for attaining new development of science and technology with firm conviction and optimism.

The central task of today's scientific research work is to successfully solve the scientific and technological problems arising in accelerating the work of making the national economy chuche-oriented, modern, and science-oriented, and in occupying the 10 major prospective targets of socialist economic construction.

First of all, it is important to make scientists and technicians thoroughly establish chuche and push ahead vigorously with scientific research work. Only when chuche is firmly established will it be possible to rapidly develop science and technology capable of effectively using our country's raw material and resources in conformity with the trends of the modern scientific and technological development onto a higher stage.

Scientists and technicians should strengthen scientific research work designed to develop the economy on the basis of rich natural resources and raw materials of our country and bolster the occupying the grand 10 major prospective targets scientifically and technologically.

Now is a time when science and technology are developing very rapidly. We should positively develop the basic science field, conduct research work designed to introduce modern scientific and technological successes into the national economy prospectively, and bring the nation's science and technology up to the world's advanced levels.

Scientific research work is creative work which requires the maximum display of human intellectual ability. It is also difficult and complicated work that explores an unknown world.

Scientists and technicians should genuinely contribute to the party, revolution, fatherland, and people with new inventions and practicable successes by vigorously conducting scientific research work with loyalty to the party and leader, the revolutionary spirit of self-reliance and arduous struggle, and extraordinary passion, as demonstrated by the unsung heroes.

The scientists and technician shock brigade movement put forward by our party is a mass technological renovation movement of scientists and technicians that combines science and putting science into production, and embodies the principles of the speed battle in scientific research work.

We should vigorously accelerate the march for the development of the nation's science and technology by further raising the role of the scientist and technician shock brigade and by further strengthening the creative cooperative relations among the scientists themselves, between the scientists and technicians, and also among the scientists, technicians, and producing masses.

Technological progress and the successes in scientific research work are dependent in large part on the qualifications of the scientists and technicians. Scientists and technicians should establish the revolutionary trait of learning, be industrious in learning foreign languages along with their own major field by becoming self-teachers and enthusiasts themselves, and nourish themselves on modern science and technology without interruption.

In order to rapidly develop the nation's science and technology, it is imperative to strengthen guidance over it. Party organizations and functionaries should ensure good conditions for the scientists' and technicians' research work, learning, and living and take measures to accept the successes resulted in their studies into production in a timely manner.

Scientists and technicians, who are the ones directly in charge of developing the nation's science and technology, cannot say that they have paid back the party's high trust in, consideration for, and expectations of them if they have failed to come up with more than one research success.



Party organizations and functionaries should see to it that the scientists and technicians raise their own pride and dignity, assign them research projects based on their abilities in a bold manner, and stand behind them with a sense of responsibility until such time as they bear fruit and become successful.

All functionaries, educators, scientists, technicians, and working people should make the 1980's shine more as the peak era of socialist construction by strengthening the work of training technical personnel and by rapidly developing science and technology under the leadership of our party.

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N. KOREA/SCIENCE AND TECHNOLOGY

KANG SONG-SAN, KIM HWAN ATTEND TECHNICAL INNOVATION MEETING

SK180540 Pyongyang KCNA in English 0524 GMT 18 Jun 86

[Text] Pyongyang, 18 Jun (KCNA)--A national technical innovation meeting of three-revolution team members was held at the People's Palace of Culture on 17 June. Attending the meeting together with three-revolution team members were Kang Song-san, member of the Political Bureau of the Central Committee of the Workers' Party of Korea and premier of the Administration Council, Kim Hwan, member of the Political Bureau, and secretary, of the WPK Central Committee, Yi Kun-mo and Kye Ung-tae, alternate members of the Political Bureau, and secretaries, of the WPK Central Committee, and other officials concerned.

The meeting heard a report and speeches of many attendants.

The reporter and speakers said that the technical revolution was an important task facing the three-revolution teams and dear Comrade Kim Chong-il wisely directed the three-revolution team members to play a vanguard role in the van of the technical revolution and took revolutionary steps on several occasions particularly after the meeting of the three-revolution team members in 1984 and showed deep care for them so that they might take the lead in carrying out the technical revolution.

In a short period of less than 2 years since the meeting of the three-revolution team members, they noted, many three-revolution team members have been advanced more than 20,000 technical innovation proposals, solved many scientific and technological problems arising in socialist economic construction and registered signal successes in carrying out the technical revolution through the powerful mass technical innovation movement.

A main topic at the meeting was that the three-revolution team members should take the lead in carrying out the technical revolution.

The reporter and speakers said that all the three-revolution team members should firmly grasp the line of chuche-orienting, modernizing and scientising the national economy and direct efforts to the solution of scientific and technological problems awaiting an urgent solution particularly in the main construction objects put forward by our party such as the reclamation of tideland, the construction of the Sunchon vinalon complex and salterns, and in other domains of the socialist economic construction.

N.KOREA/SCIENCE AND TECHNOLOGY

BRIEFS

CONSTRUCTION OF SILICATE BRICK FACTORY--Pyongyang, June 11 (KCNA)--A modern silicate brick factory has been built in Pihyon County, north Pyongan Province, northwestern region of Korea. All the production processes from raw material feeding to pressing are mechanized and automatized on a conveyor line. The raw materials of silicate brick are sand and quicklime abundant in Korea. The factory situated near the raw material deposits can reduce the production cost to a minimum and increase economic effectiveness. With this brick one can diversify the color of buildings and, its intensity being high, can build high-rise apartment houses without reinforcing iron and it can do without plastering the outside walls. The construction of the factory will help solve more satisfactorily the problem of building materials for housing construction and construct dwelling houses on an extensive scale. [Text]  
[Pyongyang KCNA in English 1028 GMT 11 Jun 86 SK] /8918

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N.KOREA/KOREANS IN JAPAN

TOKYO MEETING MARKS CHOSON UNIVERSITY ANNIVERSARY

SK111044 Pyongyang KCNA in English 1023 GMT 11 Jun 86

[Text] Pyongyang, June 11 (KCNA)--A meeting was held in June 8 at Choson University in Tokyo in commemoration of the 30th anniversary of its founding, according to a KNS report from Tokyo.

A congratulatory message sent by the great leader Marshal Kim Il-song to the teaching staff and students of the university of the occasion of the anniversary was read out at the meeting.

Then gifts of the dear leader Comrade Kim Chong-il to the university of its founding anniversary were conveyed.

A speech was made there by honorary rector of the university Han Tok-su, chairman of the Central Standing Committee of the General Association of Korean Residents in Japan (Chongnyon).

He said that the founding of Choson University was the birth of the first chuche-type university of overseas compatriots and a historical event that added a new chapter to the world history of education.

With this Chongnyon was put in possession of its own solid national cadres training centre and became able to strengthen and develop the democratic national education to a new, higher stage, he noted.

A letter to Marshal Kim Il-song was adopted at the meeting, which says:

It was thanks to the fatherly love of you the great leader that Choson University has been able to bring up a large number of national cadres in the past 30 years, reliably guarantee the succession of the movement of Koreans in Japan and contribute to the development of the overall educational work of Chongnyon.

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N.KOREA/FOREIGN RELATIONS

BRIEFS

AWARD TO SWAPO LEADER--Pyongyang, June 11 (KCNA)--An order of the Democratic People's Republic of Korea was awarded and a statuette of the anti-imperialist fighter presented to Sam Nujoma, president of the Southwest Africa People's Organization, on a visit to Korea today with a due ceremony. The great leader Comrade Kim Il-song, general secretary of the Central Committee of the Workers' Party of Korea, attended the ceremony together with Sam Nujoma. Present there were members of the Political Bureau of the WPK Central Committee and Vice-president Pak Song-chol, vice-director of a department of the WPK Central Committee Kwon Min-chun and major general of the Korean People's Army Yi Hong-sun. The members of the SWAPO delegation were also present. Comrade Kim Il-song awarded the freedom and independence order first class of the Democratic People's Republic of Korea and presented the statuette of the anti-imperialist fighter to Sam Nujoma. The latter expressed deep thanks for this. [Text] [Pyongyang KNCA in English 1020 GMT 11 Jun 86 SK] /8918

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